COURSE LEARNING PLAN

UNIVERSITY OF BRAWIJAYA
FACULTY OF ANIMAL SCIENCE
DEPARTMENT OF ANIMAL SCIENCE
UNDERGRADUATE STUDY PROGRAM OF ANIMAL SCIENCE
LEARNING PLAN: Feeding Programming

Course	Code	Weight (credits)	Semester	Compilation Date
Feeding Programing	PEN60010	3 credits	6	August 26, 2020

Authorization	Course Coordinator	Ka PS S1	Vice Dean 1
	Prof. Dr.Ir. Hendrawan Soetanto, M.Rur. Sc	Dr. Herly Evanuarini, S.Pt., MP.,	Dr.Ir. Halim Natsir, MP., IPM., ASEAN Eng

Learning Outcomes (LO)

PLO

1. (LO 5) Able to examine the implications of the development or implementation of science and technology that consider and apply humanities values in accordance with their expertise based on scientific principles, procedures, and ethics to produce excellent solutions and ideas.
2. (LO 9) Able to communicate effectively the results of thoughts, concepts, implementation, and analysis orally and in writing in the environment, community, nation, state, and international world.
3. (LO 11) Able to show performance, both independently and in teamwork (inter- and multi-disciplinary), identify and analyze to solve problems in quality and measurable way

CLO

1. Able to learn and self-learn various, diverse, and advanced feed programming methods which are not discussed in this lecture
2. Able to analyze real problems and recommend appropriate solutions, particularly those related to the feed programming
3. Able to work in teams, discuss, and be highly creative

Brief Course Description

This course covers understanding in making animal feed databases and their relationship with nutritional value and learning how to solve a problem in animal feed by making mini software.

Topics

1. Variety of animal feed in tropical and sub-tropical regions
2. The basis for preparing the animal feed database
3. Formulation Theory of Animal Ration
4. Dbase program
5. Introduction to Linear programming
6. Familiarize with Microsoft Office Excel program and its application for creating simple programs for Animal Feed Ration Creation
7. Application of the Ration Compilation Program of Feed Live International

References		
Learning Media	Software	Hardware
	Software, Powerpoint, Video	Laptop, LCD
Teaching Team	1. Prof. Dr.Ir .Hendrawan Soetanto, M.Rur. Sc 2. Prof. Dr. Ir. Kusmartono 3. Dr. Ir. Muhammad Halim Natsir, SPt.,MP.,IPM., ASEAN Eng	
Prerequisite Courses	Courses of Statistics and Experimental Design	

Week	Sub-CLO	Indicator	Learning Materials / Topics	Learning Methods	Criteria & Form of Assessment	Weighted Score (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Able to explain the scope of lectures and course contracts	Able to explain the scope of the lecture and the course contract properly	- Introduction (explanation of lecture topics) - Course contract	- Lectures - Discussions		
2	Students are able to explain the variety of animal feed in tropical and sub-tropical areas	Students explain the variety of animal feed in tropical and sub-tropical areas	The variety of animal feed in tropical and sub-tropical areas	- Lectures - Discussions		
3	Students are able to compile the animal feed database	Students are able to compile the animal feed database properly	Basic compilation of animal feed database	- Lectures - Tutorials	Quizzes	
4	Students are able to explain about non-ruminant animal ration formulations	Students are able to explain non-ruminant animal ration formulations properly	The theory of non-ruminant animal ration formulations	- Lectures - Discussions		
5	Students are able to explain about ruminant animal ration formulations	Students are able to explain ruminant animal ration formulations properly	The theory of ruminant ration formulations	- Lectures - Discussions	Structured Assignments	
6	Students are able to make non-ruminant animal ration formulations using	Students are able to make non-ruminant animal ration formulations using linear	The theory and practice of non-ruminant ration formulations using linear	- Tutorials - Practicum		

	linear programming	programming properly	programming			
7	Students are able to make ruminant ration formulations using linear programming	Students are able to make ruminant animal ration formulations using linear programming properly	The theory and practice of non-ruminant ration formulations using linear programming	- Tutorials - Practicum		
	Midterm Exam					
8	Students are able to practice ration formulations using the Dbase Program	Students are able to practice ration formulations using the Dbase Program properly	The theory and practice of the Dbase Program	- Tutorials - Practicum		
9	Students are able to get to know Microsoft Office Excel and its application for making simple programs for the preparation of animal feed rations	Students are able to explain Microsoft Office Excell and its application for making simple programs for the preparation of animal feed rations	An introduction to the Microsoft Office Excel program and its application for making a simple program for the preparation of animal feed rations	- Lectures - Tutorials		
10	Students are able to make mini software for animal feed preparation using Microsoft Office Excel	Students are able to make mini software for animal feed preparation using Microsoft Office Excel properly	Making a simple ration preparation program using Microsoft Office Excel	- Tutorials - Practicum - Discussions		
11	Students are able to create menus and links to make mini software using Microsoft Office Excel	Students are able to create menus and links to make mini software using Microsoft Office Excel properly	Making menus and links in making mini software using Microsoft Office Excel	- Lectures - Tutorials - Practicum		
12	Students are able to make ration formulations using the mini software	Students are able to make ration formulations	Making ration formulations using mini software from	- Tutorials - Practicum		

	from Microsoft Office Excel	using the mini software from Microsoft Office Excel properly	Microsoft Office Excel			
13	Students are able to use the macro language in Excel for making mini software programs	Students are able to use micro language software programs properly	The development of the Excel program using micro language	- Lectures - Discussions	Structured Assignments	
14	Students are able to know and explain about the ration preparation program of reed live international	Students are able to know and explain about the ration preparation program of reed live international properly	Introduction to the ration preparation program of reed live international	- Lectures - Discussions		
15	Students are able to present their ideas and creations in making programs related to animal science	Students are able to present their ideas and creations in making programs related to animal science properly	Discussion on animal feed preparation program	Presentations and Discussions	Presentations	
16	FINAL EXAM					

ASSESSMENT RUBRIC

	UNIVERSITY OF BRAWIJAYA FACULTY OF ANIMAL SCIENCE DEPARTMENT OF ANIMAL SCIENCE UNDERGRADUATE STUDY PROGRAM OF ANIMAL SCIENCE		
Course	Feeding Programming		
Score Level	CLO and PLO	Conversion	PLO Score
LO 5: Able to examine the implications of the development or implementation of science and technology that consider and apply humanities values in accordance with their expertise based on scientific principles, procedures, and ethics to produce excellent solutions and ideas CLO 1: Able to learn and self-learn various, advanced, and diverse feed programming methods that are not discussed in this course for non-ruminant animal applications according to the raising phases and purposes			
Very Good (4)	Have **comprehensive** abilities to make and develop their own (self-learn) various methods of animal feed programming	80-100	1
Good (3)	Have **good** abilities to make and develop their own (self-learn) various methods of animal feed programming	70-79.9	0.75
Moderate (2)	Have **moderate** abilities to make and develop their own (self-learn) various methods of animal feed programming	60-69.9	0.5
Poor (1)	Have **poor** abilities to make and develop their own (self-learn) various methods of animal feed programming	<60	0.25
Score Level	CLO and PLO	Conversion	PLO Score
LO 11: Able to show performance, both independently and in teamwork (inter- and multi-disciplinary), identify and analyze to solve problems in quality and measurable way CLO 2: 2. Able to analyze real problems and recommend appropriate solutions, particularly those related to the feed programming			
Very Good (4)	Have **proper** abilities to conduct an analysis of real problems and recommend solutions	80-100	1
Good (3)	Have **good** abilities to conduct an analysis of real problems and recommend solutions	70-79.9	0.75
Moderate (2)	Have **moderate** abilities to conduct an analysis of real problems and recommend solutions	60-69.9	0.5
Poor (1)	Have **poor** abilities to conduct an analysis of real problems and recommend solutions	<60	0.25
Score Level	CLO and PLO	Conversion	PLO Score
LO 9: Able to communicate effectively the results of thoughts, concepts, implementation, and analysis orally and in writing in the environment, community, nation, state, and international world.			

CLO 3: Able to work in teams, discuss, and be highly creative			
Very Good (4)	Have **comprehensive** abilities to shows teamwork, discussion, and high creativity	80-100	1
Good (3)	Have **good** abilities to shows teamwork, discussion, and high creativity	70-79.9	0.75
Moderate (2)	Have **moderate** abilities to shows teamwork, discussion, and high creativity	60-69.9	0.5
Poor (1)	Have **poor** abilities to shows teamwork, discussion, and high creativity	<60	0.25

Formula to Calculate PLO Score: $\frac{Level\ Skor}{\sum level\ skor} \times \frac{\sum CLO}{\sum PLO}$

CLO Score Calculation

Assessed components	Component Weights	CLO Weight on the Score		
		CLO 1	CLO 2	CLO 3
Practicum	0.3	0.3	0.4	0.3
Midterm Exam	0.3	0.2	0.5	0.3
Final Exam	0.3	0.2	0.5	0.3
Assignment	0.05	0.2	0.5	0.3
Quiz	0.05	0.4	0.3	0.3
CLO WEIGHT				

PLO Score Calculation

CLO	CLO Score	CLO Weight	PLO		
			PLO 5	PLO 9	PLO 11
CLO 1			0.7		0.3
CLO 2				0.4	0.6
CLO 3			0.3		0.7

Basic Format for the Lecture Portfolio

<table>
<tr><td colspan="2"> 
</td><td colspan="3">UNIVERSITY OF BRAWIJAYA
FACULTY OF ANIMAL SCIENCE
STUDY PROGRAM OF ANIMAL SCIENCE</td></tr>
<tr><td colspan="2">Course: Animal Feed Programming</td><td>Code:</td><td>RMK:</td><td>Semester: 6</td></tr>
<tr><td colspan="2">Lecturers</td><td colspan="3">1. Prof. Dr.Ir .Hendrawan Soetanto, M.Rur. Sc
2. Prof. Dr. Ir. Kusmartono
3. Dr. Ir. Muhammad Halim Natsir, SPt.,MP.,IPM., ASEAN Eng</td></tr>
<tr><td colspan="5">Introduction (Describe the necessary explanation about this course, the experiences that have been done)
This course covers understanding in making animal feed databases and their relationship with nutritional value and learning how to solve a problem in animal feed by making mini software</td></tr>
<tr><td rowspan="2">1</td><td colspan="4">Objectives (describe general and specific course objectives)</td></tr>
<tr><td colspan="4">After taking this course, the students are able to:
1. Able to learn and self-learn various, diverse, and advanced feed programming methods which are not discussed in this lecture
2. Able to analyze real problems and recommend appropriate solutions, particularly those related to the feed programming
3. Able to work in teams, discuss, and be highly creative</td></tr>
<tr><td rowspan="2">2</td><td colspan="4">Learning Strategies (describe the strategy used to achieve the course objective - CLO)</td></tr>
<tr><td colspan="4">The learning strategies carried out in lectures include student center learning and teacher center learning</td></tr>
<tr><td rowspan="2">3</td><td colspan="4">Lecture Management (describe the lecture management: lectures, tutorials, practicum, assignments, major assignments, etc.)</td></tr>
<tr><td colspan="4">1) Lecture: 100 minutes/meeting (14 meetings)
2) Practicum of 150 minutes/meeting (14 meetings)
3) Structured assignments/quizzes/group presentation
4) Attendance: 80% of total attendance</td></tr>
<tr><td rowspan="2">4</td><td colspan="4">Lecture Contents (explain its suitability with the applicable curriculum)</td></tr>
<tr><td colspan="4">The topics of this course consist of:
1. Variety of animal feed in tropical and sub-tropical regions
2. The basis for preparing the animal feed database
3. Formulation Theory of Animal Ration
4. Dbase program
5. Introduction to Linear programming
6. Familiarize with Microsoft Office Excel program and its application for creating</td></tr>
</table>

	simple programs for Animal Feed Ration Creation 7. Application of the Ration Compilation Program of Feed Live International
5	**Lecture Participants** (provide an overview of the lecture participants)
	The lecture participants are 7th-semester students
6	**Attendance Percentage** (% lecturer attendance; % student attendance)
	% of lecturer attendance: 100% % of student attendance: 80%
7	**Evaluation System** (explain the homework, quizzes, group assignments, practicum, etc.)
	Midterm Exam: 30% *Final Exam: 30%* *Pass the Practicum Exam: 30 %* *Structured Assignments/quizzes: 10%*
8	**Class Observation** (explain important and interesting things that were encountered during the lecture)
9	**Learning Outcomes** (explain the achievement of the objectives that have been set, also include the learning achievements that can be explained)
	The expected learning outcomes are: 1. Able to identify, analyze and find solutions to solve problems logically, analytically, critically, and ethically regarding problems in the animal industry 2. Able to apply scientific methods and communicate research results in the animal industry in forums 3. Able to communicate research results, innovations in scientific and non-scientific forums
10	**Obstacles (provide an overview of the main obstacles in the learning process)**
11	**Score Distribution** (provide the score distribution following the learning achievements of this course)
	Midterm Exam*: 30%* Final Exam*:30 %* *Pass the Practicum Test:30 %* *Structured assignment/quizzes:10%*
12	**Conclusion**
13	**Improvement Recommendations**
	Appendices:
	1. 2. Etc.