COURSE LEARNING PLAN

	UNIVERSITY OF BRAWIJAYA FACULTY OF ANIMAL SCIENCE DEPARTMENT OF ANIMAL SCIENCE UNDERGRADUATE STUDY PROGRAM OF ANIMAL SCIENCE LESSON PLAN: Management of Forage Resources

Course	Code	Weight (credits)	Semester	Compilation Date
Pasture Management	PEN60009	3 (2-1)	6	July 27, 2020

Authorization	Course Coordinator	Head of Undergraduate Study Program of Animal Science	Vice Dean 1
	Prof.Dr.Ir. Ifar Subagiyo, M.Agr.St	Dr. Herly Evanuarini, S.Pt.MP	Dr.M.Halim Natsir,S.Pt.MP, IPM,ASEAN Eng

Learning Outcomes (LO)

LO

1. LO 4: Able to develop comprehensive insight and mindset according to the science and field of the animal industry
2. 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.
3. LO 7: Able to demonstrate independent, quality, and measurable performance (both quality and quantity) effectively, efficiently, and sustainably
4. LO 13: Able to apply animal technology that is oriented towards improving production, efficiency, quality, and sustainability based on mastery of animal science including breeding, feed, processing of products, marketing management and organizing a sustainable animal production system, and applying entrepreneurial concepts

CLO

Students are able:

1. CLO 1: Able to develop insight about forage resources comprehensively (PLO 4)
2. CLO 2: Understand and explain the differences in agrobiodiversity of forage sources (PLO 5 and PLO 7)
3. CLO 3: Able to understand the techniques of the utilization of forage resources agrobiodiversity (PLO 7 and PLO 13)

Brief Course Description

This course discusses:

a. Potential agrobiodiversity of forage sources (pasture, agricultural land for food crops, forestry, plantations)
b. Techniques for utilizing forage resource agrobiodiversity

Topics

1. Introduction

	2. Pasture agrobiodiversity 3. Agricultural land for food crops agrobiodiversity 4. Plantation agrobiodiversity 5. Forestry area agrobiodiversity 6. Techniques for utilizing agrobiodiversity 7. Utilization of forage resource agrobiodiversity	
References	1. Subagiyo, I and Kusmartono, 2018. Kultur Padangan, Malang: UB Press	
Learning Media	Software	Hardware
	Video	LCD Laptop/Computer
Teaching Team	1. Prof. Dr. Ir. Ifar Subagiyo, M.Agr.St 2. Dr. Ir. Siti Nurul Kamaliyah, MP 3. Ir. Hermanto,MP 4. Ir. Hanief E.S,MP 5. Artharini Irsyammawati,S.Pt.MP 6. Rini Dwi Wahyuni,S.Pt.MSc	
Prerequisite course	Forage Crops Science, Integrated Farming System	

Week (s)	Sub-Course Learning Outcomes (SCLO)	Indicators	Learning Materials/ Topics	Learning Methods	Criteria & Form of Assessment	Weighted scores (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Able to understand the definition and potential of forage source agrobiodiversity in tropical and sub-tropical regions	Able to explain the definition and potential of forage source agrobiodiversity in tropical and sub-tropical regions	Introduction: Semester Lesson Plan (RPS), Lecture contract, Definition and potential of forage source agrobiodiversity in tropical and sub-tropical regions	Lectures and discussions	Quizzes	
2	Able to explain and differentiate land-based and narrow land-based forage sources	Able to explain and differentiate land-based and narrow land-based forage sources	Classification of Forage Sources a. Land-based forage sources b. narrow land-based forage sources (hydroponics, aquaponics)	Lectures and discussions	Midterm Exam	
3	Able to explain and describe pasture agrobiodiversity	Able to explain and describe pasture agrobiodiversity	Pasture agrobiodiversity	Lectures and discussions	Midterm Exam	

4	Able to explain and describe agricultural land for food crops agrobiodiversity	Able to explain and describe agricultural land for food crops agrobiodiversity	Agricultural land for food crops agrobiodiversity	Lectures and discussions	Midterm Exam	
5	Able to explain and describe plantation agrobiodiversity	Able to explain and describe plantation agrobiodiversity	Plantation agrobiodiversity	Lectures and discussions	Midterm Exam	
6	Able to explain and describe forestry areas agrobiodiversity	Able to explain and describe forestry areas agrobiodiversity	Forestry areas agrobiodiversity	Lectures and discussions	Midterm Exam	
7	Able to explain and provide arguments about problems in each agrobiodiversity	Able to present and provide arguments about problems in each agrobiodiversity	Discussion and presentation about the problems of agrobiodiversity - pasture improvements - agricultural land for food crops - plantation land - forestry areas	Lectures and discussions	Structured Assignment and Midterm Exam	
8	MIDTERM EXAM		Summative test			
9	Able to understand and describe the measurement of forage and waste productivity in intensive agricultural areas	Able to understand and describe the measurement of forage and waste productivity in intensive agricultural areas	The measurement of forage and waste productivity in intensive agricultural areas	Lectures and discussions	Final Exam	
10	Able to understand and describe the measurement of extensive pasture productivity	Able to understand and describe the measurement of extensive pasture productivity	The measurement of extensive pasture productivity	Lectures and discussions	Final Exam	
11	Able to understand and explain production measurement techniques for forage sources	Able to understand and explain production measurement techniques for forage sources in	Production measurement techniques for forage sources in each agrobiodiversity	Lectures and discussions	Final Exam	

	in each agrobiodiversity	each agrobiodiversity				
12	Able to understand and explain techniques for measuring the botanical composition of forage sources in each agrobiodiversity	Able to understand and explain techniques for measuring the botanical composition of forage sources in each agrobiodiversity	Techniques for measuring the botanical composition of forage sources in each agrobiodiversity	Lectures and discussions	Final Exam	
13	Able to calculate the carrying capacity of areas in intensive agricultural land	Able to calculate the carrying capacity of areas in intensive agricultural land	The carrying capacity of areas in intensive agricultural land - Feed balance calculation techniques and problems	Lectures and discussions	Final Exam	
14	Able to calculate the carrying capacity of areas in extensive pasture	Able to calculate the carrying capacity of areas in extensive pasture	The carrying capacity of areas in extensive pasture - Feed balance calculation techniques and problems	Lectures and discussions	Structured Assignment and Final Exam	
15	Able to explain the utilization and processing of forage sources and food crop agricultural waste	Able to explain the utilization and processing of forage sources and food crop agricultural waste	Utilization and processing of forage sources and food crop agricultural waste a. The relationship between land use and forage supply b. Forage concentrate processing c. Types and characteristics of waste	Lectures and discussions	Final Exam	
16	FINAL EXAM		Summative test			