



Course Module
Department of Animal Science
Faculty of Animal Science
Universitas Brawijaya

Module name	Forage Science
Module Level	Undergraduate Study Program of Animal Science
Code	PEN60002
Subtitle	-
Courses	Plants for Animal Feed Science
Semester(s)	2
Person responsible for the module	Prof. Dr. Ir. Ifar Subagiyo, M.Agr.St
Lecturer	1. Prof. Dr. Ir. Ifar Subagiyo, M.Agr.St 2. Prof.Dr. Ir. Hendrawan S.,M.Rur.Sc 3. Dr.Ir. Siti Nurul Kamaliyah,MP 4. Ir. Hanief Eko Sulisty,MP 5. Artharini Irsyammawati,S.Pt.MP 6. Asri Nurul Huda, S.Pt.,M.Sc.MP
Language of instruction	Combination (Indonesian language and English)
Relation to Curriculum	Study Program: Animal Science Specialization: Animal Science Type: Compulsory/ Non-Compulsory
Type of Teaching, Contact Hours	1. Lecture/Meeting/Tutorial/Structural assignment: 100 minutes/week/semester 2. Independent Study: 50 minutes/week/semester 3. Practicum: 100 minutes/week/semester
Workload	Lecture : 2 credits or 90.67 hours/semester; Practical : 1 credits or 42.50 hours/semester
Credit points	3 credits (Lecture : 3.40 ECTS and Practical : 1.70 ECTS = Total 5.10 ECTS)
Requirements According to the Examination Regulations	-
Recommended Prerequisite	Biology (PEF61006)
Module Objectives / Intended Learning Outcomes	Learning Outcomes: 1. Developing awareness of Animal welfare and halal issue (LO 3) 2. Proficient in biology, physiology, animal nutrition, breeding, farm management, and implementation in Animal Science (LO 6) 3. Actively contributing in the learning process and discussion (LO 10) 4. Demonstrating good capability to be independent and to work in team as to identify and analyse problems (LO 11)
	Objective: The Forage Science course determining the types adaptation, and potential production of forage and also



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	evaluate the factors influencing the production and utilization of forage and simulate the planting of planting forage in pots by considering the factors affecting the production of forage
	<p>Knowledge:</p> <p>Able to understand how to identify the types adaptation, and potential production of forage and also evaluate the factors influencing the production</p>
	<p>Skills</p> <p>Cognitive</p> <p>The students have capability to evaluate the factors influencing the production and utilization of forage</p> <p>Phsycomotoric</p> <p>The students able to simulate the planting of planting forage in pots by considering the factors affecting the production of forage</p>
	<p>Competences</p> <p>Able to implement the principle of forage science including production management, forage evaluation and forage planting related to providing good quality for the animals.</p>
Learning Content	<ol style="list-style-type: none"> 1. INTRODUCTION Definition, course descriptions, and lecture contracts. Situation and condition of TPT in Indonesia. The functions and roles of TPT. 2. FORAGE FACTORS (Morphology and growth of forage) 3. FORAGE FACTORS Adaptation and potential of cut grass and pasture (species, adaptation, and potential) 4. FORAGE FACTORS Adaptation and potential of cut grass and pasture (species, adaptation, and potential) 5. CLIMATE FACTORS <ul style="list-style-type: none"> • Solar radiation (Photosynthesis of C3 and C4 plants and period photos) • Rainfall Temperature 6. SOIL FACTORS Chemistry: nutrients & acidity 7. SOIL FACTORS Physical: texture, structure, air, and water



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	<p>Biology: BO, m.o, and biological processes</p> <p>8. CULTIVATION MANAGEMENT Preparation for planting: Land and planting material</p> <p>9. CULTIVATION MANAGEMENT Maintenance:</p> <ul style="list-style-type: none"> • Fertilization • Planting, & weeding, irrigation, eradication of pests and diseases <p>10. CULTIVATION MANAGEMENT Harvesting:</p> <ul style="list-style-type: none"> • Age/defoliation interval and intensity of defoliation <p>11. GREEN PRODUCTION AND QUALITY</p> <ul style="list-style-type: none"> • Definition of production & quality • Factors influencing production and quality <p>12. GREEN PRODUCTION AND QUALITY</p> <ul style="list-style-type: none"> • Production & quality indicators • Production & quality measurement <p>13. (Pasture)</p> <ul style="list-style-type: none"> • Botanical composition • Stocking rate <p>14. (cut and carry system)</p> <ul style="list-style-type: none"> • Carrying capacity • Introduction to preservation
<p>Test Terms and Forms</p>	<ul style="list-style-type: none"> – Examination requirements: A minimum of 80% attendance to attend the final exam – The forms of the test: Multiple Choice/Essay/Group <p>The Final Score Component:</p> <ul style="list-style-type: none"> – 30% Midterm Exam, – 30% Final Exam, – 30% Practicum, – 5% Structured Assignments – 5 % Quiz <p>A : 80 < Final Score ≤ 100 B+ : 75 < Final Score ≤ 80 B : 69 < Final Score ≤ 75 C+ : 60 < Final Score ≤ 69</p>



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	C : $55 < \text{Final Score} \leq 60$ D : $50 < \text{Final Score} \leq 55$ D+ : $44 < \text{Final Score} \leq 50$ E : $0 < \text{Final Score} \leq 44$
Learning Media	Projector and screen, Zoom application, Google Classroom, e-book, WA Group
References	Main 1. www.tropicalforages.info 2. Crowder, L.V and H.R. Chheda, 1982. Tropical Grassland Husbandry. Longman Group Limited. Essex. UK. Supporting 1. Subagiyo, I dan Kusmartono, 2017, Ilmu Kultur Padangan, UB Press, Malang. 2. Soepardi, G.,1983. Sifat dan Ciri Tanah, Departemen Tanah, Fakultas Pertanian IPB, Bogor.