

Module designation	Biodynamics in Grazed Animal's Feed		
Semester(s) in which the module is taught	Odd semester		
Person responsible for the module	Dr. Ir. Bambang Suhartanto, DEA., IPU. Ir. Bambang Suwignyo, S.Pt., M.P., Ph.D., IPM., ASEAN Eng. Ir. Nafiatul Umami, S.Pt., M.P., Ph.D., IPM., ASEAN Eng. Dr. Miftahush S. Haq, S.Pt.		
Language	Bahasa and English		
Relation to curriculum	Specialization's Elective		
Teaching methods	Classical lecture and discussion		
Workload (incl. contact hours, self-study hours)	Total workload: 79 hours Contact hours: - Lecture: 23 hours - Academic activity: 28 hours Private study: 28 hours		
Credit points	2/0		
Required and recommended prerequisites for joining the module	None		
Module objectives/intended learning outcomes	<p>Course Outcomes (CO):</p> <ol style="list-style-type: none"> 1. Master the principal in the grazing animal feed 2. Able to choose method in the livestock development biodynamics system. 3. Able to formulate and solve problems in developing environmentally-friendly forage and pasture. <p>Expected Learning Outcomes:</p> <ul style="list-style-type: none"> - Mastery in Sciences: <ol style="list-style-type: none"> 1. Able to master the design, management, and development of livestock research. (CO1) - Special skills: <ol style="list-style-type: none"> 1. Able to design interdisciplinary and multidisciplinary research in the animal husbandry. (CO2, CO3) 2. Able to formulate and solve problems in the national development especially in terms of animal husbandry. (CO3) 3. Able to solve problems and anticipate issues in the development of animal science and industry. (CO2, CO3) 		
Content	This course mainly talks about definition, biodynamics aspects in farming system, management concept of natural pasture in permaculture, types of permaculture in PPA, nutrient cycle and the role of microorganism, forage quality, anti-quality and feed toxicology, and also economical and supplementation analysis of grazing animal feed.		
Exams and assessment formats	Assessment Components	Course Outcomes (CO)	Percentage (%)
	1. Midterm exam (written test, take home exam, paper assignment)	CO1	35
	2. Final exam (written test, take	CO2 & CO3	35

	home exam, paper assignment)		
	3. Short quizzes	CO1	5
	4. Presentation	CO1, CO2 & CO3	15
	5. Take-home written assignments	CO1, CO2 & CO3	10
	Grade and Score		
	Grade	Score	Grade
	A	≥80	C+
	A-	75-79,9	C
	A/B	70-74,9	C-
	B+	65-69,9	C/D
	B	60-64,9	D+
	B-	55-59,9	D
	B/C	50-54,9	E
Study and examination requirements	The final grade in the module is composed of 35% performance on Midterm exam, 35% final exam, 5% quiz, 15% presentation, and 10% take-home written assignment. Students must have a final grade of 70% or higher to pass		
Reading list	Learning books and articles related to the topics.		