

Module designation	Research Techniques in Animal Production
Semester(s) in which the module is taught	Even semester
Person responsible for the module	Prof. Ir. I Gede Suparta Budisatria, M.Sc., Ph.D., IPU., ASEAN Eng. Prof. Dr. Ir. Budi Prasetyo Widyobroto, DESS., DEA, IPU., ASEAN Eng. drh. Bambang Aryadi, M.P., Ph.D.
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. Comprehend the research roles in science and technology development process at animal production field. 2. Able to comprehend the problems comprehensively and identify the problems in animal production research development and also able to comprehend its research concepts and research techniques. 3. Able to use various research methods and techniques which are precise for getting accurate-meticulous problem solving in animal production field. 4. Able to elaborate the problems and connect them with problem solving process through research in animal production field. 5. Able to translate the proposal systematically in arranging research schedule and precise data processing which match with the method used. <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 current animal science and its application theory. (CO1, CO2, CO3, CO4, CO5) 2. Able to master the livestock production science, animal nutrition and fed science, animal products technology, and the livestock social economics in relation to food security and environment. (CO1, CO2, CO3, CO4, CO5) 3. Able to master the design, management, and development of livestock research. (CO3, CO4, CO5) - Special skills: <ol style="list-style-type: none"> 1. Able to make innovation in the animal husbandry based on the development of science and technology. (CO1, CO2, CO3, CO4, CO5) 2. Able to design interdisciplinary and multidisciplinary research in the animal husbandry. (CO2, CO3, CO4, CO5)

	<ol style="list-style-type: none"> 3. Able to formulate and solve problems in the national development especially in terms of animal husbandry. (CO3, CO4, CO5) 4. Able to solve problems and anticipate issues in the development of animal science and industry. (CO5) <p>- General skills:</p> <ol style="list-style-type: none"> 1. Able to develop logical, critical, systematic, and creative thought through scientific research, creation of design in the science and technology, which pays attention and applies humanity values according to their expertise. The graduates are able to arrange scientific concept and the study result based on the principles, procedures, and scientific ethics. (CO1, CO2, CO3, CO4, CO5) 2. Able to identify the science that becomes their research object and position it to a research map by using information technology in the context of science development and expertise implementation developed through interdisciplinary or multidisciplinary approaches. (CO2, CO3, CO4, CO5) 3. Able to make a decision in the context of solving problems in the development of science and technology, which pays attention and applies humanity values based on analysis study or experiment towards information and data. (CO5) 4. Able to communicate the result of reasoning and scientific research in form of thesis and scientific writing responsibly based on academic ethics in the accredited national journal. (CO5) 5. Able to maintain the academic integrity generally and avoid the plagiarism practice. (CO5) 6. Able to communicate spoken and written English effectively by using the information technology for the development of animal science and its implementation. (CO5)
<p>Content</p>	<p>This course is designed to explore research techniques that are executed for improving the farm production of meat, egg, and milk. This course is provided as the students are able to find out the differences and also the similarities concerning to the comprehension in doing implementation at animal science field with all problems included especially for each laboratory. By using this introductory, students have understanding in animal collection number as sample, specific factors which influence each laboratory. Research method towards reproduction commodity and physiology becomes attentive which needs to be understood. The learning method used is by sampling and face-to-face meeting and also discussion concerning to the animal production research problems. The assessment conducted for the orientation definition of this course is by quiz and test.</p>

Exams and assessment formats	Assessment Components	Course Outcomes (CO)	Percentage (%)	
	1. Midterm exam (written test, take home exam, paper assignment)	CO1, CO2 & CO3	40	
	2. Final exam (written test, take home exam, paper assignment)	CO3, CO4 & CO5	40	
	3. Short quizzes	CO1, CO2 & CO3	5	
	4. Presentation	CO1, CO2, CO3, CO4 & CO5	5	
	5. Take-home written assignments	CO1, CO2, CO3, CO4 & CO5	10	
	Grade and Score			
	Grade	Score	Grade	Score
	A	≥80	C+	45-49,9
	A-	75-79,9	C	40-44,9
	A/B	70-74,9	C-	35-39,9
	B+	65-69,9	C/D	30-34,9
	B	60-64,9	D+	25-29,9
	B-	55-59,9	D	20-24,9
B/C	50-54,9	E	0-19,9	
Study and examination requirements	The final grade in the module is composed of 40% performance on Midterm exam, 40% final exam, 5% quiz, 5% presentation, and 10% take-home written assignment. Students must have a final grade of 70% or higher to pass			
Reading list	<ul style="list-style-type: none"> - Rapid rural appraisal, participatory rural appraisal and aquaculture - Sustainability Pathways: Sustainability and organic livestock - Metode, Teknik, Instrument dan Analisa Penelitian - Getting started with Stella@ v 6.0. MM. High Personal Systems Inc. Tersedia di: http://www.hps-inc.com - Problem Tree Analysis. MDF Tool. Tersedia di: http://www.problem_tree_analysis_-_mdf_undated.pdf - European Commission. Structure and dynamics of EU farms: changes, trends and policy relevance. EU Agricultural Economics Briefs. 2013: 1–15. - Alvarez A, del Corral J, Solís D, Pérez JA. Does Intensification Improve the Economic Efficiency of Dairy Farms? J Dairy Sci. Elsevier; 2008;91: 3693–3698. doi: 10.3168/jds.2008-1123 [PubMed] - Bava L, Sandrucci A, Zucali M, Guerci M, Tamburini A. How can farming intensification affect the environmental impact of milk production? J Dairy Sci. 2014;97: 4579–4593. doi: 10.3168/jds.2013-7530 [PubMed] - FAO animal production and health guidelines. guide to good dairy farming practice. food and agriculture organization of the united nations and international dairy federation Rome, 2011. 			

	<ul style="list-style-type: none">- Georgina Villarreal Herrera. 2017. Sustaining Dairy, 2017. PhD thesis, Wageningen University, Wageningen, the Netherlands. With references, with summaries in English, Dutch and Spanish ISBN 978-94-6343-154-5 DOI 10.18174/410882. 331 pages.- Lhoste P. 1986. L'association agriculture - élevage. Evolution du système agropastoral au Siné - Saloum (Sénégal). Paris: INAPG, Cirad.- Landais E, Lhoste P, Guerin H. Les systèmes de gestion de la fumure animale et leur insertion dans les relations entre l'élevage et l'agriculture. Cahiers Agricultures 1993; 2: 9-25.- Landais E, Lhoste P. L'association agriculture - élevage en Afrique intertropicale: un mythe techniciste confronté aux réalités du terrain. USDA. 2012. Milk Production Methodology and Quality Measures. the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA). ISSN: 2167-1885.- Pearson RA, Lhoste P. Working animals in agriculture and transport. A collection of some current research and development observations. Wageningen Academic Publishers, The Netherlands, 2003. EAAP Technical series N 6.
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