

Module designation	Dairy Production System
Semester(s) in which the module is taught	Odd semester
Person responsible for the module	Prof. Dr. Ir. Tridjoko Wisnu Murti, DEA. Prof. Dr. Ir. Budi Prasetyo Widyobroto, DESS., DEA., IPU., ASEAN Eng. Ir. Yustina Yuni Suranindyah, MS., Ph.D., IPM.
Language	Bahasa and English
Relation to curriculum	Specialization's Compulsory
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. Able to explain ethics and development system of dairy. 2. Able to formulate problems and complexity related to dairy production system that consists of land-livestock-farmer. 3. Able to collect, analyse and interpret the linkages of the system (land-animal farmer) in dairy responsibly. 4. Able to carry out simulation of dairy development by considering economics, environmental and social (EES dimensions/issues) dimensions. 5. Able to design alternatives of sustainable livestock production system. <p>Expected Learning Outcomes:</p> <ul style="list-style-type: none"> - Attitudes and Behaviors: <ol style="list-style-type: none"> 1. Be proud and love the homeland show nationalism, and contribute to the improvement of the life quality in the community, nation and country, and the advancement of civilization according to Pancasila. (CO1) 2. Be accountable in carrying the professional practice that includes ability to accept accountability towards decision and professional action. It shall be according to the scope of the practice under their responsibility and laws. (CO1) - Mastery in Sciences: <ol style="list-style-type: none"> 1. 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. (CO2) 2. Able to master the design, management, and development of livestock research. (CO2) - 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. (CO4) 2. Able to design interdisciplinary and multidisciplinary

	<p>research in the animal husbandry. (CO3, CO4, CO5)</p> <p>3. Able to formulate and solve problems in the national development especially in terms of animal husbandry. (CO3, CO4, CO5)</p> <p>4. Able to solve problems and anticipate issues in the development of animal science and industry. (CO3, CO4, CO5)</p>																																																						
Content	<p>This course focuses on understanding the complexity of dairy production systems as milk producers. This understanding is in the context of exploring and designing sustainable dairy production. The focus of this course is to build systems by paying attention to livestock and the dual function of livestock, economic viability, social acceptability, animal welfare, (includes animal behavior) and environmental aspects.</p>																																																						
Exams and assessment formats	<table border="1"> <thead> <tr> <th>Assessment Components</th> <th>Course Outcomes (CO)</th> <th>Percentage (%)</th> </tr> </thead> <tbody> <tr> <td>1. Midterm exam (written test, take home exam, paper assignment)</td> <td>CO1 & CO2</td> <td>35</td> </tr> <tr> <td>2. Final exam (written test, take home exam, paper assignment)</td> <td>CO1, CO2, CO3, CO4 & CO5</td> <td>35</td> </tr> <tr> <td>3. Short quizzes</td> <td>CO1 & CO2</td> <td>10</td> </tr> <tr> <td>4. Presentation</td> <td>CO3 & CO4</td> <td>10</td> </tr> <tr> <td>5. Take-home written assignments</td> <td>CO3, CO4 & CO5</td> <td>10</td> </tr> <tr> <th colspan="4">Grade and Score</th> </tr> <tr> <th>Grade</th> <th>Score</th> <th>Grade</th> <th>Score</th> </tr> <tr> <td>A</td> <td>≥80</td> <td>C+</td> <td>45-49,9</td> </tr> <tr> <td>A-</td> <td>75-79,9</td> <td>C</td> <td>40-44,9</td> </tr> <tr> <td>A/B</td> <td>70-74,9</td> <td>C-</td> <td>35-39,9</td> </tr> <tr> <td>B+</td> <td>65-69,9</td> <td>C/D</td> <td>30-34,9</td> </tr> <tr> <td>B</td> <td>60-64,9</td> <td>D+</td> <td>25-29,9</td> </tr> <tr> <td>B-</td> <td>55-59,9</td> <td>D</td> <td>20-24,9</td> </tr> <tr> <td>B/C</td> <td>50-54,9</td> <td>E</td> <td>0-19,9</td> </tr> </tbody> </table>	Assessment Components	Course Outcomes (CO)	Percentage (%)	1. Midterm exam (written test, take home exam, paper assignment)	CO1 & CO2	35	2. Final exam (written test, take home exam, paper assignment)	CO1, CO2, CO3, CO4 & CO5	35	3. Short quizzes	CO1 & CO2	10	4. Presentation	CO3 & CO4	10	5. Take-home written assignments	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
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Study and examination requirements	<p>The final grade in the module is composed of 35% performance on Midterm exam, 35% final exam, 10% quiz, 10% presentation, and 10% take-home written assignment. Students must have a final grade of 70% or higher to pass</p>																																																						
Reading list	<ul style="list-style-type: none"> - 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. 																																																						

	<p>Elsevier; 2008;91: 3693–3698. doi: 10.3168/jds.2008-1123 [PubMed]</p> <ul style="list-style-type: none">- Bava L, Sandrucci A, Zucali M, Guerci M, Tamburini A. How can farming intensification affect the environmental impact of milk production? <i>J Dairy Sci.</i> 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.- Georgina Villarreal Herrera. 2017. Sustaining Dairy, [SEP] 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. <i>Cahiers Agricultures</i> 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 N6.
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