Module designation	Animal Waste Technology
Semester(s) in which the module is taught	Even semester
Person responsible for the module	Prof. Ir. Ambar Pertiwiningrum, M.Si., Ph.D., IPM., ASEAN Eng. Ir. Nanung Agus Fitriyanto, S.Pt., M.Sc., Ph.D.,IPM.
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	Course Outcomes: 1. Able to understand the animal waste parameter. 2. Able to understand the waste water treatment. 3. Able to understand the biogas system and design. 4. Able to understand the process of making compos. Expected Learning Outcomes: - Mastery in Sciences: 1. Able to master the current animal science and its application theory. (CO1, CO2, CO3, CO4) 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) - Special skills: 1. Able to make innovation in the animal husbandry based on the development of science and technology. (CO2) 2. Able to formulate and solve problems in the national development especially in terms of animal husbandry. (CO3) - General skills: 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. (CO3)
Content	The course of animal waste technology describes the potential and waste threat and by product, treatment and processing technology physically and chemically and biologically, biochemical aspect and waste treatment microbiology, bio-methanogen, and composting and also the bioremediation of environment polluted by heavy metal

<table>
<tr><td rowspan="10">Exams and assessment formats</td><td colspan="2">Assessment Components</td><td>Course Outcomes (CO)</td><td colspan="2">Percentage (%)</td></tr>
<tr><td colspan="2">1. Midterm exam (written test, take home exam, paper assignment)</td><td>CO1, CO2, & CO3</td><td colspan="2">35</td></tr>
<tr><td colspan="2">2. Final exam (written test, take home exam, paper assignment)</td><td>CO2, CO3, & CO4</td><td colspan="2">35</td></tr>
<tr><td colspan="2">3. Discussion</td><td>CO1, CO2, & CO3</td><td colspan="2">10</td></tr>
<tr><td colspan="2">4. Take-home written assignments</td><td>CO1, CO2, & CO3</td><td colspan="2">20</td></tr>
<tr><td colspan="5">Grade and Score</td></tr>
<tr><td>Grade</td><td>Score</td><td>Grade</td><td colspan="2">Score</td></tr>
<tr><td>A</td><td>≥80</td><td>C+</td><td colspan="2">45-49,9</td></tr>
<tr><td>A-</td><td>75-79,9</td><td>C</td><td colspan="2">40-44,9</td></tr>
<tr><td>A/B</td><td>70-74,9</td><td>C-</td><td colspan="2">35-39,9</td></tr>
<tr><td>B+</td><td>65-69,9</td><td>C/D</td><td colspan="2">30-34,9</td></tr>
<tr><td>B</td><td>60-64,9</td><td>D+</td><td colspan="2">25-29,9</td></tr>
<tr><td>B-</td><td>55-59,9</td><td>D</td><td colspan="2">20-24,9</td></tr>
<tr><td>B/C</td><td>50-54,9</td><td>E</td><td colspan="2">0-19,9</td></tr>
<tr><td>Study and examination requirements</td><td colspan="5">The final grade in the module is composed of 35% performance on Midterm exam, 35% final exam, 10% discussion, and 20% take-home written assignment. Students must have a final grade of 70% or higher to pass</td></tr>
<tr><td>Reading list</td><td colspan="5">- Taiganides, E. P. 1977. Animal Waste. Applied Science Publisher, Ltd. London
- Taiganides, E. P. 1987. Animal Waste Management and Wastewater treatment. In: Animal Production and Environmental Health. Edit. By: D. Strauch. Elsevier Publishers B. V. Tokyo. Pp 91-153
- Triatmojo, S. 2002. Bioakumulasi Logam Krom pada Lumpur Kering Limbah Penyamakan Kulit. Disertasi S3. Pascasarjanan, IPB. Bogo</td></tr>
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