Module designation	Biometric Genetics and Physiology
Semester(s) in which the module is taught	Odd and even semesters
Person responsible for the module	Prof. Dr. Ir. Sumadi, MS, IPU. Ir. Tety Hartatik, S.Pt., Ph.D, IPM. Ir. Dyah Maharani, S.Pt., MP., PhD, IPM. Prof. Ir. Diah Tri Widayati, M.P., Ph.D., IPM. Dr. Ir. Sigit Bintara, M.Si., IPU., ASEAN Eng.
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 (CO): 1. Students are able to comprehend the basis of quantitative and physiologic inheritance concept 2. Students are able to analyse the inheritance science based on the method and concept of statistic, genetic, and physiologic 3. Students are able to implement the concept of quantitative traits inheritance and physiology statistically in solving animal breeding and reproduction problem Expected Learning Outcomes: - Attitudes and Behaviors: 1. Be accountable for professional practices that consist of accepting sue for any professional decision and action according to their area's scope and according to the law/regulations. (CO1, CO2, CO3) - Mastery in Sciences: 1. Able to master scientific philosophy and develop new science and technology in animal science is useful, competitive, and environmentally sound research with a multidisciplinary approach. (CO1, CO2, CO3) 2. Able to develop new science and technology concepts to solve problems in the field of animal husbandry through research with multidisciplinary and transdisciplinary approaches. (CO1, CO2) - Special skills: 1. Able to independently design and carry out inter-, multi-, and transdisciplinary research for the development of animal husbandry science and technology. (CO1, CO2) 2. Able to manage, lead and develop research in the field of animal husbandry, as well as communicate the results and get recognition at the national and international levels for the benefit of humankind. (CO1)

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<tr><td></td><td colspan="4">- General skills:
1. Able to develop a research roadmap to compile scientific, technological, or artistic arguments and solutions based on a critical view of facts, concepts, principles, or theories with an interdisciplinary, multidisciplinary, or transdisciplinary approach, based on a study of the main objectives of the research and their constellation on broader targets. (CO2, CO3)
2. Able to communicate the result of reasoning and scientific research in the form of dissertation and scientific writing responsibly based on academic ethics. (CO2, CO3)</td></tr>
<tr><td>Content</td><td colspan="4">Biometric genetics and physiology is a course that learns about (1) concept of quantitative traits inheritance science including trait related to physiology, (2) method and statistical analysis about quantitative and physiologic traits inheritance.</td></tr>
<tr><td rowspan="11">Exams and assessment formats</td><td colspan="2">Assessment Components</td><td>Course Outcomes (CO)</td><td>Percentage (%)</td></tr>
<tr><td colspan="2">1. Midterm exam (written test, paper assignment)</td><td>CO 1 & CO 2</td><td>30</td></tr>
<tr><td colspan="2">2. Final exam (written test, paper assignment)</td><td>CO 1, CO 2 & CO 3</td><td>40</td></tr>
<tr><td colspan="2">3. Short quizzes</td><td>CO 1 & CO 2</td><td>5</td></tr>
<tr><td colspan="2">4. Presentation</td><td>CO 3</td><td>10</td></tr>
<tr><td colspan="2">5. Take-home written assigments</td><td>CO 1 & CO 2</td><td>15</td></tr>
<tr><td colspan="4">Grade and Score</td></tr>
<tr><td>Grade</td><td>Score</td><td>Grade</td><td>Score</td></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>
<tr><td>Study and examination requirements</td><td colspan="4">The final grade in the module is composed of 30% performance on Midterm exam, 40% final exam, 5% quiz, 10% presentation, and 15% 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="4">- Crow, J.F., Kimura, M., 1970. An Introduction to Population Genetics Theory. Harper and Row, New York, NY
- David M. Evans, N.A. Gillespie, N.G. Martin. 2002. Biometrical Genetics. Biological Psychology 61: 33-51
- Falconer D.S and Mackay J. 1998. Introduction to Quantitative Genetics. Longman.
- Jinks, J.L., Fulker, D.W., 1970. Comparison of the biometrical genetical, MAVA, and classical approaches to the analysis of human behavior. Psychol. Bull. 73 (5), 311 /349
- Mather, K and L. Jinks. 1983. Introduction to Biometrical Genetics. Chapman and Hall, London
- McArdle, J.J., Goldsmith, H.H., 1990. Alternative common factor models for multivariate biometric analyses. Behav. Genet. 20 (5), 569 /608</td></tr>
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