Module name	Applied Statistics and Experimental Design
Module Level	Undergraduate Study Program of Animal Science
Code	PEF60003
Subtitle	-
Courses	Applied Statistics and Experimental Design
Semester(s)	4
Person responsible for the module	Prof. Dr. Ir. V.M Ani Nurgiartiningsih, MSc
Lecturer	1. Prof. Dr. Ir. Gatot Ciptadi, DESS, IPU., ASEAN Eng 2. Prof. Dr. Ir. Sucik Maylinda, MS. 3. Prof. Dr. Ir. V.M Ani Nurgiartiningsih, MSc 4. Dr. Ir. Herni Sudarwati, MS 5. Dr. Ir. Agus Budiarto, MS 6. Dr. Ir. Osfar Sjofjan, MSc, IPU, ASEAN Eng 7. Dr. Ir. Irfan H.Djunaidi., MSc, IPM,. ASEAN Eng 8. Dr. M. Halim Natsir, S.Pt., MP., IPM., ASEAN Eng 9. Ir. Nur Cholis, MS, IPM, ASEAN Eng 10. Asri Nurul H, SPt., MP., MSc
Language	Indonesian and English language
Relation to Curriculum	Study Program: Animal Science Specialization: Animal Science Type: Compulsory
Type of Teaching, Contact Hours	1. Lectures are conducted for 2x50 minutes for 14 meetings (Offline) or 1x50 minutes for 14 meetings (Online) 2. Practicums are conducted for 1x50 minutes for 14 meetings (Offline/Online) 3. Exercises are conducted for 2x before Midterm Exam and 2x after Midterm Exam 4. Self-structured assignments are conducted 1x before Midterm Exam and 1x after Midterm Exam 5. Quizzes are conducted 1x before the Midterm Exam and 1x after the Midterm Exam 6. Group presentations are conducted 1x before the Midterm Exam and 1x after the Midterm Exam
Workload	Lecture : 2 credits or 90.67 hours/semester; Practical : 1 credits or 42.50 hours/semester
Credit points	3 credits (Lecture : 3.40 ECTS and Practical : 1.70 ECTS = Total 5.10 ECTS)

Requirements According to the Examination Regulations	-
Recommended Prerequisite	-
Module Objectives / Intended Learning Outcomes	1. Capability to develop knowledge and comprehensive mindset based on Animal science and industry (LO 4) 2. Demonstrating good capability to be independent and to work in team as to identify and analyse problems (LO 11) 3. Capability to ethically design and perform experiments, analyze and interpret data as to provide sustainable problem solving in Animal Science (LO 12)
	Objective Determining the type of statistic and correct experimental design; calculating data from observations and experiments and analyzing and concluding the results of data calculations from observations and experiments.
	Knowledge: Able to understran how to determine the type of statistic and correct experimental design.
	Skills Cognitive Able to calculate the data from observations and experiments Phsycomotoric Able to analyze and conclude the results of data calculations from observations and experiments.
	Competences Able to design their own experiment based on the principle of statistic and experimental design and able to analyze the experiment result.
Learning Content	1. INTRODUCTION 2. Continuous random odds distribution 3. Chi square 4. T Student 5. Regression and Correlation 6. Introduction to Experimental Design 7. Completely Randomized Design (CRD) 8. Treatment Average Testing 9. Randomized Block Design (RBD) 10. Latin square design and Cross over design 11. Factorial experiment 12. Nested experiment

	13. Variety Analysis 14. Transformations and Excell applications

Test Terms and Forms	− Examination requirements: A minimum of 80% attendance to attend the final exam
	
	− The forms of the test: Multiple Choice/Essay/Group
	
	The Final Score Component:
	
	− 30% Midterm Exam,
	− 30% Final Exam,
	− 30% Practicum,
	− 5% Structured Assignments
	− 5 % Quiz
	
	A : 80 < Final Score ≤ 100
	B+ : 75 < Final Score ≤ 80
	− B : 69 < Final Score ≤ 75
	  C+ : 60 < Final Score ≤ 69
	  C : 55 < Final Score ≤ 60
	  D : 50 < Final Score ≤ 55
	  D+ : 44 < Final Score ≤ 50
	  E : 0 < Final Score ≤ 44

Learning Media	Projector and screens, Zoom application, Google Classroom, e-book, WA Group

References	Main
	  1. Bate, S.T. and R.A. Clark. 2014 The Design and Statistical Analysis of Animal Experiments. Cambridge University Press. United States of America
	Supporting
	  1. Cochran, W.G., 2007 Sampling Techniques, Third Edition. Wiley India Pvt. Limited
	  2. Dean, A., D. Voss and D. Draguljic. 2017 - Design and Analysis of Experiments. Second Edition. Springer International Publishing. Switzerland
	  3. Kutner, Nachtsheim and Neter. 2018. Applied Linear Regression Mode. Mcgraw-Hill Education – Europe
	  4. Montgomery, D.C., 2008. Design and Analysis of Experiments. John Wiley & Sons, Inc. New York
	  5. Petrie, A.and P. Watson. 2013. Statistics for Veterinary and Animal Science. Third Edition. Wiley-Blackwell

	6. Rumsey, D.J. 2011. Statistics For Dummies. John Wiley & Sons. Inc. New York
	7. Ryan, T.P., 2007. Modern Experimental Design. John Wiley & Sons, Inc. New York
	8. Steel and Torrie. 1980. Prinsicple andProcedure Statistics. McGraw Hill Book co. New York
	9. Cochran, W.G. 1977. Sampling Techniques. 3rd Ed John Wiley n son s, Inc. New york
	10. Neter, J,W. Wasemann and M.H. Kutler. 1983. Applied Linear Regression Model. Richard D. Irwin Inc. Iiliois
	11. Gill, J.L. 1978. Design and analysis of experiments in the animal and medical science. Vol. 1 and 2. Iowa state Univ. Press
	12. Herni, S., et al. 2018. Statistik dan Rancangan Percobaan Penerapan Dalam bidang Peternakan