

SYLLABUS & COURSE OUTLINES

ODD SEMESTER 2026/2027



Master of Agribusiness Management
Department of Agricultural Socio-Economics
Statistics for Agribusiness
(PNMM265103/3 credits)

Course Team:

Arini Wahyu Utami, Ph.D.

Dr. Hani Perwitasari, S.P., M.Sc.

GADJAH MADA UNIVERSITY
FACULTY OF AGRICULTURE
2026

	Gadjah Mada University Faculty of Agriculture Master of Agribusiness Management Study Program Odd Semester 2026/2027				Document Code:	
						
SYLLABUS & COURSE OUTLINES						
Course Code	Course Name	Credit Weight (sks)		Semester	Course Status	Prerequisite Course
PNMM265103	Statistics for Agribusiness	T: 3	P: 0	Odd	Compulsory	-
Brief Course Description	This course introduces statistics for agribusiness, statistical analysis tools in economics and social sciences. This course will discuss mathematical and statistical models of economic phenomena, the scope of analysis and its discussion, multiple regression formulation using the OLS method, classical assumption testing, logistic and probit regression, factor analysis, path analysis, Structural Equation Modelling (SEM), time series analysis, linear probability model, logit model, probit model, simultaneous equations model, panel data analysis, and ARIMA.					
Graduate Learning Outcomes (CPL) Assigned to the Course	CPL1	P1. Able to explain and relate management theory and application comprehensively and inter/multidisciplinarily in the field of agribusiness.				
	CPL2	KU1. Able to think logically, critically, systematically, and creatively in the field of agribusiness management				
	CPL3	KK1. Able to design innovative agribusiness management models in accordance with the development of science and technology.				
	Indonesian National Qualification Framework (KKNI) Level 8					
Course Learning Outcomes (CPMK)	After completing this course, students are expected to be able to:					
	CPMK1	Able to reveal agribusiness phenomena using the principles of economics, mathematics, and statistics [P1]				
	CPMK2	Able to make recommendations from analyzing and interpreting the results of statistical model analysis for agribusiness using available computer software packages [KU1, KK1]				
Relationship between CPMK and Learning Materials, Learning Methods, and Time Allocation		Learning Materials		Learning Methods		Time Allocation
	CPMK1	OLS Regression		Presentation		3x50 minutes
	CPMK1	Testing deviations of the OLS regression model from classical assumptions		Presentation		3x50 minutes
	CPMK1	Functional form of the regression model and introduction to Stata		Presentation and Case-based learning		3x50 minutes
	CPMK2	Practice in the analysis and interpretation of OLS regression with dummy and quadratic variables, and its classical assumption tests		Presentation and Case-based learning		3x50 minutes
	CPMK2	Logistic and probit regression, and practice in their analysis and interpretation		Presentation and Case-based learning		3x50 minutes
	Midterm Exam/Project Task Results/Case Analysis Results					
	CPMK2	Factor analysis, and practice in its analysis and interpretation		Presentation and Case-based learning		3x50 minutes

	CPMK2	Path analysis, SEM, and practice in their analysis and interpretation		Presentation and Case-based learning		3x50 minutes
	CPMK2	Simultaneous Equations Model		Presentation and Case-based learning		3x50 minutes
	CPMK2	Panel Analysis		Presentation and Case-based learning		3x50 minutes
	CPMK2	ARIMA		Presentation and Case-based learning		3x50 minutes
	CPMK2	ARCH and GARCH		Presentation and Case-based learning		3x50 minutes
	CPMK2	Causality, Cointegration and ECM		Presentation and Case-based learning		3x50 minutes
	Final Exam/ Project Task Results/Case Analysis Results					
Learning Method	SCL: Case-based learning					
Student Learning Experience	Students provide alternative solutions to the various cases given, in accordance with the most appropriate resolution method					
Learning Media Access/ LMS and Percentage of Offline & Online	Google classroom Offline: 100% (40% may be conducted offline)					
Assessment Method and Alignment with CPMK	Technique Assessment	Percentage Assessment	Criteria/ Indicator	CPMK 1	CPMK 2	
	In-class case-based learning	50	Students' accuracy in resolving cases according to the method		V	
	Cognitive					
	UTS	25	Students' accuracy in answering questions	V		
	UAS	25	Students' accuracy in answering questions		V	
	Total	100				
	*) can also be obtained from the Midterm or Final Exam that results from participatory activities or project/case study results. In accordance with IKU 7, the total percentage of participatory activities and project/case study/PBL results is a minimum of 50%.					

Reference List	Main: (1) Gujarati, Damodar. 2004. Basic Econometrics. 4th Edition. McGraw-Hill, USA. (2) Maddala, G.S.2001. Introduction to Econometrics, 3rd.Wiley, USA (3) Montgomery, D.C., C.H. Jennings., M. Kulahci. 2008. Introduction to Time Series Analysis and Forecasting. John Wiley & Sons. Inc. Hoboken. New Jersey (4) Pindyck, Robert S., and Daniel L. Rubinfeld, 1981. Econometrics Models and Economic Forecasts. McGraw-Hill International Book Company. Auckland, New Delhi, Tokyo (5) Wooldridge, Jeffrey M., 2013. Introductory Econometrics; A Modern Approach, Fifth Edition. Cengage Learning Additional: Rosyadi, F. H., Mulyo, J. H., Perwitasari, H., & Darwanto, D. H. (2021). Export intensity and competitiveness of Indonesia's crude palm oil to main destination countries. <i>Agricultural Economics (Czech Republic)</i>, 67(5), 189-199. Perwitasari, H., Irham, I., Hardyatuti, S., & Hartono, S. (2018, November). Farmers' Willingness to Continue Landscape Integrated Pest Management Programs in Central Java and East Java Indonesia. In <i>4th International Conference on Food, Agriculture and Natural Resources (FANRes 2018)</i> (pp. 15-19). Atlantis Press.			
Name of Course Lecturer (Team Teaching)	Arini Wahyu Utami, Ph.D. Dr. Hani Perwitasari, S.P., M.Sc.			
Authorization	Date of Preparation	Course Coordinator	Field of Expertise Coordinator (If Any)	Head of Study Program
	July 2026	Arini Wahyu Utami, Ph.D.		Dr. Ir. Lestari Rahayu Waluyati, M.P