Subject Module
Department of Agribusiness
Faculty of Agriculture
University of Islam Malang

Module Handbook

Title Module	Economic math
Module Level, if available	Undergraduate, Study Program of Agribusiness
CourseCode	MKW60702
Title, if available	-
Course (MK)	Economic math
Semester	1
Course Coordinator	Dr. DwiSusilowati, SP., MP
Teaching Team	Anugrah Rizki Pratama, SP., MP.
Instruction language	Indonesian Language/English
Linkage to Curriculum	Study Program: Agribusiness Specialization: Economic Agribusiness Type: Compulsory / ~~Elective~~
Method and Duration of Learning	1. Lecture: 100 minutes / meeting (14 meetings) 2. Practicum: 170 minutes / meeting (8 meetings) 3. Structured assignments / individual and group assignments
Study LoadStudent	1. Lecture: 100 minutes / meeting (14 meetings) 2. Practicum: 170 minutes / meeting (8 meetings) 3. Structured assignments / quizzes / group presentations 4. Attendance: 75% of total attendance
WeightCredit	3 Credits or 5.1 ECTS
Requirements to Pass the Course	• Attendance ≥75% • Final score of all components of learning evaluation ≥50 Final Score Components: • 30% Mid-Semester Exam • 30% Final Examination • 15% Prakticum • 15% Structured Tasks (individual and group) • 10% Attendance
CoursePrerequisites	-
Learning outcomes	The expected learning outcomes are: 1. Able to respond to problems regarding entrepreneurship, agribusiness, and green food.(ILO 1) 2. Able to analyze the rules and principles of agribusinessssciences, social sciences, economics, and agricultural techniqueus as the basic for innovative agribusiness disciplines.(ILO 2)
ContentLearning	After completing this course students can: 1. Students are able to use mathematics as a tool for agribusiness economic analysis 2. Students are able to use basic mathematical formulas to be

	applied in agribusiness economic cases ekonomi 3. Students are able to apply mathematical theories to various relevant cases or problems 4. Students are able to have skills that can be developed for relevant scientific development. The topics include: 1. Set Definition of Set Set Presentation Universal Set and Empty Set Set Operation Mathematical Rules in Set Operations 2. Number System Comparative Relationship between Numbers Number Operation Sign Operation Fraction Operation 3. Powers, Roots and Logarithms Rank Root Logarithm 4. Row Count Series geometric series 5. Function Definition and Elements of Function Function types Linear function description Non-linear function depiction 6. Linear Relationship Cut and slope straight line Formation of Linear Equations Relationship of two straight lines garis Finding the Roots of a Linear Equation 7. Non-Linear Relationship Identify the quadratic equation Circle Ellipse hyperbole Parabola 8. Simple Functional Differential Differentiation Rules The Nature of Derivatives and Differentials Derivative of Derivative Relationship between Functions and their Derivatives 9. Differential Compound Functions Fungsi Partial Differential Derivative of Partial Derivative Extreme values: Maximum and Minimum Conditional Optimization Functional Homogeneity 10. Integral Indefinite integral Indeterminate Integration Rules Certain integral Certain Integration Rules 11. Matrix

	Understanding Matrix and Vector Matrix Equality and Vector Equality Matrix and Vector Operations Typical forms of matrices Matrix Conversion
TestTermsandForms	Exam Requirements: Minimum 75% attendance to attend the final exam Test Form:Essay
Learning Media	Projector and screen, Zoom application, e-book, WA Group, Learning Management System (LMS UNISMA)
Reference	**Main Reference:** 1. Chiang A.C. 1984. Fundamental Methods Of Mathematical Economics.Third Edition.Mc. Graw-Hill Book Inc. New York 2. Dumairy. 2004. Matematika Terapan Untuk Bisnis Dan Ekonomi. Edisi Ke dua belas. BPFE. Yogyakarta 3. Toumanoff, Peter and Nourzad, Farrokh, 1994, A Mathematical Approachto Economic Analysis. West Publishing Company. 4. Johannes H., Handoko BS. 1994. Pengantar Matematika Untuk Ekonomi.Edisi ke empat belas. LP3ES. Jakarta