UNIVERSITAS NEGERI YOGYAKARTA

FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS EDUCATION

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Bachelor of Science in Mathematics   **MODULE HANDBOOK**

Module name:	Linear Algebra
Module level,ifapplicable:	Undergraduate
Code:	MAT6308
Sub-heading,ifapplicable:	-
Classes,ifapplicable:	-
Semester:	2nd
Module coordinator:	Emut, M.Si.
Lecturer(s):	1. Dr. Karyati 2. Emut, M.Si. 3. Musthofa, M.Sc.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours perweek during the semester:	150 minutes lectures and 180 minutes structured activities per week.
Workload:	Total workload is 136 hours per semester which consists of 150 minutes lectures, 180 minutes structured activities, and 180 minutes self-study per week for 16 weeks.
Creditpoints:	3
Prerequisites course(s):	Number Theory (MAT6205)
Course outcomes:	After taking this course the students have ability to: CO1. Demonstrate obedient attitudes, religious norms and academic ethics that foster a noble personality CO2. Propose creative, innovative, superior, measurable and

	polite ideas in linear algebra verbally or in writing
	CO3. Mastering linear algebra and its application for further study
	CO4. Exploring, generalizing and proving lemma, theorems in linear algebra using logical reasoning
	CO5. Formulate mathematical models in linear algebra, complete and interpret accurately
Content:	This Linear Algebra course discusses the concepts of matrices and matrix operations, the rules of matrix operation, types of matrices, elementary matrices and inverse matrix methods, inverse matrix operations, systems of linear equations, Gauss elimination, and Gauss-Jordan elimination, determinant function, calculates determinant by line reduction, properties of determinant functions, cofactor expansion and Cramer rules, linkages between homogeneous linear equation, inverse matrix and determinant, application of inverse matrix on cryptography, vectors (analytic), norms vector, the point projection, cross product on R^2 and R^3, and euclide-n space.
Study/exam achievements:	Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitudeif they show it significantlycompared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of therequirements to pass the course. Students will pass from this course if at least have a good attitude.

The final mark will be weight as follow:

No	CO	Assessment Object	Assessment Technique	Weight
1	CO1	presentation	Observation	10%
2	CO2,	a. Individual	Presentation	15%

		CO3	Assignment	/ written		
		CO4	b. Group Assignment	test	10%	
		A\and	c. Quiz		15%	
		CO5	d. Mid		20%	
			e. Final Exam		30%	
				Total	100%	

Forms of media:	Board, LCD Projector, Laptop/Computer
Literature:	1. Anton, H, 1995. Elementary Linear Algebra. New York. John Wiley and Sons. 2. Anton, H, 1995. Linear Algebra and Its Application. New York. John Wiley and Sons 3. Poole, D, 2006. Linear Algebra: A Modern Introduction, 2nd Edition. Belmont: Thomson Higher Education 4. Setya Budi, Wono, 1995. Aljabar Linear. Jakarta. PT GramediaUtama

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1	✓									
CO2				✓						
CO3					✓					
CO4						✓				
CO5							✓			