



UNIVERSITAS NEGERI YOGYAKARTA

FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS EDUCATION

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Bachelor of Education in Mathematics

MODULE HANDBOOK

Module name:	Linear Algebra
Module level, if applicable:	Undergraduate
Code:	MAT6308
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	3 th
Module coordinator:	Emut, M.Si.
Lecturer(s):	Dr. Karyati, Emut, M.Si., Musthofa, M.Sc.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week 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.
Credit points:	3
Prerequisites course(s):	Logic and Sets (MAT6301)
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. Developing Linear Algebra learning media using MatLab

Content:	<p>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 euclidean $-n$ space.</p>																				
Study/exam achievements:	<p>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 attitude if they show it significantly compared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude.</p> <p>The final mark will be weight as follow:</p> <table border="1" data-bbox="620 1102 1409 1459"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CO1</td> <td>presentation</td> <td>Observation</td> <td>10%</td> </tr> <tr> <td>2</td> <td>CO2, CO3 CO4 and CO5</td> <td>a. Individual Assignment b. Group Assignment c. Quiz d. Mid e. Final Exam</td> <td>Presentation / written test</td> <td>15% 10% 15% 20% 30%</td> </tr> <tr> <td colspan="4" style="text-align: right;">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1	presentation	Observation	10%	2	CO2, CO3 CO4 and CO5	a. Individual Assignment b. Group Assignment c. Quiz d. Mid e. Final Exam	Presentation / written test	15% 10% 15% 20% 30%	Total				100%
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Total				100%																	
Forms of media:	Board, LCD Projector, Laptop/Computer																				
Literature:	<ol style="list-style-type: none"> Anton, H, 1995. Elementary Linear Algebra. New York. John Wiley and Sons. Anton, H, 1995. Linear Algebra and Its Application. New York. John Wiley and Sons. Poole, D, 2006. Linear Algebra: A Modern Introduction, 2nd Edition. Belmont: Thomson Higher Education. Setya Budi, Wono, 1995. Aljabar Linear. Jakarta. PT Gramedia Utama 																				

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CO1	✓											
CO2		✓										
CO3			✓									
CO4						✓						
CO5										✓		