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MODULE HANDBOOK

Module name	Applied Linear Algebra I
Module level, if applicable	Bachelor
Code, if applicable	MMM-2210
Subtitle, if applicable	
Courses, if applicable	
Semester(s) in which the module is taught	Second year (odd semester)
Person responsible for the module	Chair of the Lab. of Algebra
Lecturer(s)	Dr. Ari Suparwanto, M.Si.
Language	Bahasa Indonesia
Relation to curriculum	Elective courses
Type of teaching, contact hours	100 minute lecture, 120 minute structured activities
Workload	Total workload is 90.67 hours per semester, which consists of 100 minutes lectures per week for 14 weeks, 120 minutes structured activities per week, 120 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam.
Credit points	2
Requirements according to the examination regulations	Students have taken Applied Linear Algebra I course (MMM-2210) and have an examination card where the course is stated on.
Recommended prerequisites	Students have taken Elementary Linear Algebra course (MMM-1202) and have participated in the final examination of the course.
Module objectives/intended learning outcomes	As a result of completing this course, the student will be able: **CO1.** To Apply concept of elementary linear Algebra on Real Problems. **CO2.** To use MATLAB software in its calculations.
Content	Topics: 1. Construction of Curves and Planes Equation from Some Given Points, 2. Electrical Network, 3. Equilibrium Temperature Distribution, 4. Cubic Spline Interpolation, 5. Markov Chain, 6. Game Strategy, 7. Leontif Economy Model, 8. Forest Management, 9. Genetics, 10. Population Growth of Certain Age, 11. Harvesting of Animal Population, 12. Least Square Model for Human Hearing, 13. Computed Tomography.
Study and examination requirements and forms of examination	The final mark will be weighted as follows: No Assessment methods(components, activities) Weight(percentage) 1 Final Examination 40 2 Mid-Term Examination 30 3 Class Activities (Quiz, Homework, etc.) 30

	The initial cut-off points for grades A, B, C, and D should not be less than 80%, 70%, 50%, and 40%, respectively.
Media employed	LCD Projector, Board, Laptop
Reading List	[1] Howard Anton, and Chris Rorres, 2000, *Elementary Linear Algebra: Application Version*, John Wiley and Sons, New York. [2] De Franza J., Gagliardi, D., 2009, *Introduction to Linear Algebra with Applications*, McGraw-Hill, Boston. [3] Keith Nicholson, 2001, *Elementary Linear Algebra*, McGraw-Hill Book Co., Singapore. [4] [4]. David C. Lay, 2012, *Linear Algebra and Its Applications*, 4th Edition Linear Algebra and Its Applications, Addison Wesley. http://web.stanford.edu/class/nbio228-01/handouts/Linear%20Algebra_David%20Lay.pdf [5] Carl D. Meyer, 2000, *Matrix Analysis and Applied Linear Algebra*, SIAM http://saba.kntu.ac.ir/eecd/sedghizadeh/Ebooks/Matrix_Analysis.pdf

PLO and CO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9
CO 1		v			v		v		
CO 2				v					