MODULE HANDBOOK
ELEMENTARY LINEAR ALGEBRA

BACHELOR DEGREE PROGRAM
DEPARTMENT OF MATHEMATICS
FACULTY OF SCIENCE AND DATA ANALYTICS

INSTITUT TEKNOLOGI SEPULUH NOPEMBER

MODULE HANDBOOK

Elementary Linear Algebra

Module name	**Elementary Linear Algebra**
Module level	Bachelor
Code	KM184203
Course (if applicable)	Elementary Linear Algebra
Semester	Spring (Genap)
Person responsible for the module	Dian Winda Setyawati, S.Si, M.Si
Lecturer	Drs. I Gusti Ngurah Rai Usadha, M.Si
	Dr. Drs. Chairul Imron, MIKomp
	Dian Winda Setyawati, S.Si, M.Si
Language	Bahasa Indonesia and English
Relation to curriculum	Bachelor degree program, **mandatory**, 2nd semester.
Type of teaching, contact hours	Lectures, <60 students
Workload	1. Lectures : 2 x 50 = 100 minutes per week.
	2. Exercises and Assignments : 2 x 60 = 120 minutes (2 hours) per week.
	3. Private learning : 2 x 60 = 120 minutes (2 hours) per week.
Credit points	4 credit points (sks)
Requirements according to the examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.
Mandatory prerequisites	-
Learning outcomes and their corresponding PLOs	Course Learning Outcome (CLO) after completing this module,
	CLO-1 Students are able to follow developments and apply mathematics and are able to communicate actively and correctly both orally and in writing.
	CLO-2 Students are able to explain intelligently and creatively about the significant role of ALE applications in related knowledge clusters and other fields and use the understanding received in lectures to solve given problems.
	CLO-3 Students have special abilities and are able to process sufficient ideas to support subsequent studies in accordance with the related field.

Content	Topics covered include systems of linear equations and their solutions, matrix algebra, inverse matrices, determinants and real vector spaces of n dimensions, including vector operations, norms of vectors, point product in R^n, cross product in R^n, base, row space, column space , blank space, rank and nullity of the matrix, transformation of the matrix, eigenvalues, eigenvectors and diagonalization of the matrix, inner product space.
Study and examination requirements and forms of examination	• In-class exercises • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.

Reading list	Main :
	  1. Howard Anton and Chris Rorrers, "Elementary Linear Algebra, Tenth Edition", John Wiley and Sons, (2010).
	Supporting :
	  1. C.D. Meyer,"Matrix Analysis and Applied Linear Algebra", SIAM, (2000)
	  2. Steven J. Leon, "Linear Algebra with Applications", Seventh Edition, Pearson Prentice Hall, (2006).
	  3. Stephen Andrilli and David Hecker,"Elementary Linear Algebra, Fourth Edition", Elsevier, (2010)
	  4. Subiono.,"Ajabar Linier", Jurusan Matematika FMIPA-ITS, 2016