Module Description

Module name	Linear Algebra
Module level, if applicable	Bachelor of Informatics
Code, if applicable	201D4213
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	3rd
Person responsible for the module	Ir. Zaenab Muslimin, MT.
Lecturer	1. Ir. Zaenab Muslimin, MT 2. Dr. Ir. Ingrid Nurtanio., MT 3. Dr.Eng. Intan Sari Areni, ST, MT 4. Elly Warni, ST, MT
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a compulsory course and offered in the 3rd semester.
Type of teaching, contact hours	Teaching methods: [problem-based learning]. Teaching forms: [lecture], [tutorial]. CH : 08.00 - 16.00
Workload	For this course, students are required to meet a minimum of 136.00 hours in one semester, which consist of: - 40.00 hours for lecture, - 48.00 hours for structured assignments, - 48.00 hours for private study
Credit points	3 credit points (equivalent with 5.1 ECTS)

Requirements according to the examination regulations	Students have participated in at least 80% of the learning activities (Academic Regulations, Chapter VII)
Recommended prerequisites	-
Module objectives/intended learning outcomes	After completing the course, Students are able: **Intended Learning Outcomes (ILO):** **ILO 1 :** Have the knowledge of fundamental Computing Science that includes basic theory and concept of computer science, Mathematics and Statistics, Programming Algorithm, Software Engineering and Information System. **ILO 3 :** Apply the knowledge of computing and other related disciplines to analyze and identify solutions for any computing-based problem. **Course Learning Objective (CLO):** After completing this course, students are expected to be able to internalize the spirit of independence and logical thinking in the context of developing or implementing science and technology in accordance with their field of expertise. And mastering the theoretical concepts of Informatics knowledge in general. **Sub CLO :** ILO 1 => CLO 1 : Students are able to define basic concepts of linear algebra, able to understand matrices, able to understand linear equations and linear systems, able to understand vector and vector spaces, students are able to understand linear transformations, and able to understand determinants and inverses of matrices. ILO 3 => CLO 2 : Students are able to understand and use the concepts of vectors and vector space and set eigenvalues and eigenvectors**.**
Content	Students will learn about : 1. Matrix 2. Linear Equations and Linear Systems 3. Vector and Vector Space

	4. Linear Transformation 5. The Determinant and the Inverse of the Matrix 6. Eigenvalues and Eigenvectors
Forms of Assessment	Assessment techniques: [written test]. Assessment forms: [quiz], [midterm exam], [final term exam], [assignment]. Quiz = 30%, Assignment = 30%, mid term exam = 20%, Final term exam = 20%, CLO 1 => ILO 1: 60% (Quiz, Assignment, and Mid term exam: written test) CLO 2 => ILO 3: 40% (Quiz, Assignment, and Final term exam: written test)
Study and examination requirements and forms of examination	**Study and examination requirements:** - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc. - Students must submit all class assignments before the deadline. - Students must attend the exam to get a final grade. **Form of examination:** Written exam: Essay
Media employed	Zoom/Gmeet, LMS Unhas (sikola.unhas.ac.id), e-book, and PowerPoint Presentation.
Reading list	**Main :** 1. Howard Anton, Chris Rorres , 2005, Elementary Linear Algebra, John Wiley & Sons, Inc. 2. Erwin Kreyszig, 2006, ADVANCED ENGINEERING MATHEMATIC 10th Edition ; JOHN WILEY & SONS, INC , New York **Support :** 1. Seymour Lipschutz, Theory and Problems of Linear Algebra. Singapore :Mc-Graw-Hill Inc. 2. Frank Ayres, Jr, Theory and Problems of Matrices. Singapore :Mc-Graw-Hill Inc. Peter O'Neill ,' Advanced Engineering Mathematics.