Course	Name	: Linear Algebra and Discrete Structures
	Code	: EE184201
	Credits	: 3
	Semester	: II

Description of Course

Linear Algebra and Discrete Structure course is basic mathematical for engineering student that discusses Linear Equation Systems, Matrices, Determinants, Vector, Eiegen Value & Eigen Vector, as well as the basic concepts of Discrete Mathematics. This course has Mathematics I as prerequisites.

Learning Outcomes

KNOWLEDGE

(P01) Mastering the concepts and principles of science and engineering mathematics, and implementing them in the form of procedures for analysis and design in power systems, control systems, multimedia telecommunications, or electronics.

SPECIFIC SKILL

(KK01) Able to formulate engineering problems in power systems, control systems, multimedia telecommunications, or electronics.

GENERAL SKILL

(KU02) Able to apply logical, critical, systematic and innovative thinking in the context of development or implementation of science and technology that concerns and implements the value of humanities in accordance with their area of expertise.

ATTITUDE

(S09) Demonstrating attitude of responsibility on work in his/her field of expertise independently Demonstrating attitude of responsibility on work in his/her field of expertise independently

(S11) Trying his/her best to achieve perfect results.

Course Learning Outcomes

KNOWLEDGE

Mastering the basic theoretical and concepts of linear algebra which includes systems theory of linear equations, matrices, determinants, eigen value & eigen vector problems, vector forms, as well as some discrete mathematical concepts (Sets, Relations, Graphs).

SPECIFIC SKILL

Able to formulate mathematical problems and solve the problem using concepts of linear equations system, matrices, determinants, eigen value & eigen vector problems, vector forms, and discrete mathematical problems.

GENERAL SKILL

ble to demonstrate independent, quality, and measurable performance in analyzing mathematical problems with techniques using linear algebraic concepts and discrete mathematics

ATTITUDE

Able to be responsible for the work, both individually and in groups

Main Subjects

1. Linear Equation System & Gauss Elimination
2. Matrix Operations
3. Determinants
4. Vector Space (Euclidean & General)
5. Eigen Value and Eigen Vector, Diagonalization
6. Sets, Set Operations, and Functions
7. Relation
8. Graph

Reference(s)

[1] Howard Anton and Chriss Rorres, 11th Edition of Elementary Linear Algebra, 2014
[2] Kenneth H. Rosen, 7th Edition of Discrete Mathematics and Its Applications

Prerequisite(s)

KM184101 Mathematic I