INSTITUT TEKNOLOGI SEPULUH NOPEMBER (ITS)
FAKULTAS TEKNOLOGI ELEKTRO DAN INFORMATIKA CERDAS
DEPARTEMEN TEKNIK ELEKTRO
Program Studi Sarjana (S1) Teknik Telekomunikasi

1	**Nama Mata Kuliah/ Course Name**	:	Matematika Diskrit/ *Discrete mathematics*
2	**Kode Mata Kuliah/ Course Code**	:	EE234301
3	**Kredit/ Credits**	:	3 SKS
4	**Semester/ Semester**	:	2

Deskripsi Mata Kuliah/ Course Description

Mata kuliah ini mengajarkan konsep dasar perhitungan matematika diskrit yang banyak digunakan dalam bidang ilmu teknik elektro. Pokok bahasan meliputi penyelesaian himpunan, logika, fungsi, relasi, counting, graf, tree dan network.

This course teaches the basic concepts of discrete mathematical calculations which are widely used in the field of electrical engineering. The subject matter includes solving sets, logic, functions, relations, counting, graphs, trees and networks.

Capaian Pembelajaran Lulusan (CPL) Yang Dibebankan Mata Kuliah/ Program Learning Outcomes Charged to The Course

1. (CPL-04) Mampu menerapkan ilmu pengetahuan alam dan matematika serta teknologi dan rekayasa informasi untuk memperoleh pemahaman komprehensif pada bidang Teknik Telekomunikasi.
   (PLO-04) *Able to apply knowledge of sciences, mathematics, and information technology to acquire comprehensive understanding of engineering principles in Telecommunication Engineering.*

2. (CPL-08) Mampu mengetahui dan mengaplikasi metode, keahlian sesuai perkembangan terkini di bidang ilmu pengetahuan dan teknologi untuk menyelesaikan permasalahan Teknik Telekomunikasi dengan mengedepankan nilai-nilai universal
   (PLO-08) *Able to know and apply methods, skills according to the latest developments in the field of science and technology to solve Telecommunication Engineering problems by prioritizing universal values*

Capaian Pembelajaran Mata Kuliah/ Course Learning Outcomes

1. Mampu menjelaskan himpunan dan operasinya/ *Be able to explain the set and its operations*

2. Mampu menjelaskan logika/ *Be able to explain logic*
3. Mampu menjelaskan fungsi dan relasi/ *Be able to explain functions and relationships*
4. Mampu menjelaskan graf dan tree/ *Be able to explain graphs and trees*

Pokok Bahasan/ Contents

1. Himpunan/ *Set*
2. Logic/ *Logic*
3. Fungsi/ *Function*
4. Relasi/ *Relationships*
5. Counting/ *Counting*
6. Graf, Tree, Network/ *Graph, Tree, Network*

Prasyarat/ Pre-requisite

Aljabar Linier dan Variabel Kompleks/ *Linear Algebra and Complex Variables*

Pustaka/ Reference

Utama/ Primary :

1. Kenneth H. Rosen, "Discrete Mathematics and Its Applications", 8th Ed., McGraw-Hill, 2019

Pendukung/ Support :

1. Susanna S.Epp, "Discrete Mathematics with Applications", 4th Ed., Cengage Learning, 2011
2. Seymour Lipschutz. "Schaum's Outlines Discrete Mathematics", 3rd Ed., McGraw-Hill, 2007