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

INSTITUT TEKNOLOGI SEPULUH NOPEMBER (ITS)
FACULTY OF INTELLIGENT ELECTRICAL & INFORMATICS TECHNOLOGY
DEPARTMENT OF ELECTRICAL ENGINEERING
Bachelor Degree Program in Electrical Engineering

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***	:	3

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 fundamental concepts of discrete mathematics used widely in the field of electrical engineering. Topics include set theory, logic, functions, relations, counting, graphs, trees, and networks.*

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

CPL 2 Mampu mengkaji dan memanfaatkan ilmu pengetahuan dan teknologi dalam rangka mengaplikasikannya pada bidang teknik elektro, serta mampu mengambil keputusan secara tepat dari hasil kerja sendiri maupun kerja kelompok dalam bentuk laporan tugas akhir atau bentuk kegiatan pembelajaran lain yang luarannya setara dengan tugas akhir melalui pemikiran logis, kritis, sistematis dan inovatif */ Able to examine and utilize knowledge and technology for the purpose of applying them in the field of electrical engineering, and making informed decisions based on individual work as well as group work in the form of final reports or other learning activities whose outcomes are equivalent to final projects, through logical, critical, systematic, and innovative thinking.*

CPL 7 Mampu mengetahui dan mengaplikasi metode, keahlian sesuai perkembangan terkini di bidang ilmu pengetahuan dan teknologi untuk menyelesaikan permasalahan teknik elektro dengan mengedepankan nilai-nilai universal / *Able*

to understanding and applying the latest methods and skills in the field of science and technology to solve electrical engineering problems while emphasizing universal values.

Capaian Pembelajaran Mata Kuliah / *Course Learning Outcomes*

1. Mampu menjelaskan himpunan dan operasinya / *Able to explain sets and their operations.*
2. Mampu menjelaskan logika / *Able to explain logic.*
3. Mampu menjelaskan fungsi dan relasi / *Able to explain functions and relations.*
4. Mampu menjelaskan graf dan tree / *Able to explain graphs and trees.*

Pokok Bahasan / *Contents*

1. Himpunan / *Sets*
2. Logic / *Logic*
3. Fungsi / *Functions*
4. Relasi / *Relations*
5. Counting / *Counting*
6. Graf, Tree, Network / *Graphs, Trees, and Networks*

Prasyarat / *Pre-requisite*

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

Pustaka / *Reference*

1. Kenneth H. Rosen, "Discrete Mathematics and Its Applications", 8th Ed., McGraw-Hill, 2019
2. Susanna S.Epp, "Discrete Mathematics with Applications", 4th Ed., Cengage Learning, 2011
3. Seymour Lipschutz. "Schaum's Outlines Discrete Mathematics", 3rd Ed., McGraw-Hill, 2007