UNIVERSITAS MATARAM

(University of Mataram)

FAKULTAS TEKNIK

(Faculty of Engineering)

PROGRAM STUDI TEKNIK INFORMATIKA

(Department of Informatics Engineering)

MODULE HANDBOOK DESCRIPTION

Discrete Mathematic (W22B22)

Module designation	Discrete Mathematic
Semester(s) in which the module is taught	*2 / first year*
Person responsible for the module	*Dr. Ario Yudo Husodo, S.T., M.T.*
Language	*Indonesian*
Relation to curriculum	*Compulsory*
Teaching methods	*Lectures, Discussions, Case Study*
Workload (incl. contact hours, self-study hours)	Contact Hours every week, each week of the 16 weeks/semester including Evaluation 3 x 50 minutes lecturer/week 3 x 60 minutes class exercise/week - Self Study hours = 180 minutes/week Total workload 510 minutes/week
Credit points	*3 (~ 4,8 ECTS)*
Required and recommended prerequisites for joining the module	-

Module objectives/ intended learning outcomes	The main objective of the Discrete Mathematics course is to provide an understanding of the basic principles, applications, and applications of Discrete Mathematics, especially in the field of Informatics Engineering. Based on these main objectives, the Discrete Mathematics course has CPMK, namely: 1. Able to formulate various problems into the framework of Discrete Mathematics 2. Able to solve various mathematical problems related to Discrete Mathematics 3. Able to apply the concept of Discrete Mathematics thinking in engineering problems with good performance
Content	Discrete mathematics is the study of mathematical structures that are discrete, separated or distinct; in contrast with calculus which deals with continuous change. The Discrete Mathematics course introduces first year students to the basic concepts of discrete mathematics, covering topics such as sets, combinatorial, number theory, and graph theory. The course provides important background for students pursuing a Bachelor of Computer degree. It covers much of the mathematics essential for students majoring in Computer Science or Software Engineering, and is a compulsory course. The purpose of this course is to understand and use (abstract) discrete structures that are backbones of computer science.
Examination forms	*Assignments, Contribution/Activeness in Class, Scheduled Exam*
Study and examination requirements	*Assignments 15%,* *Contribution/Activeness in Class 10%,* *Scheduled Exam 75%,*
Reading list	1. V. K . Balakrishnan. Introductory Discrete Mathematics (Dover Books on Computer Science). Dover Publications. 2010. 2. Richard J. Trudeau. Introduction to Graph Theory (Dover Books on Mathematics). Dover Publications; 2nd edition. 2013. 3. George E. Andrews. Number Theory (Dover Books on Mathematics). Dover Publications. 2012. 4. Jon Pierre Fortney. Discrete Mathematics for Computer Science: An Example-Based Introduction. Chapman and Hall/CRC. 2020.