UNIVERSITAS NEGERI PADANG
FACULTY OF MATHEMATICS AND NATURAL SCIENCES MATHEMATICS
DEPARTMENT, MATHEMATICS STUDY PROGRAM
Main Campus Universitas Negeri Padang.
Jalan Prof. Dr. Hamka Air Tawar Padang, Sumatera Barat
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Module name:	Discrete Mathematics
Module level, if applicable:	Bachelor
Code:	MAT1.62.3005
Subheading, if applicable:	-
Classes, if applicable:	Discrete Mathematics
Semester:	4th (fourth)
Module coordinator:	Head of Applied Mathematics Expertise Group
Lecturer(s):	Prof. Ahmad Fauzan,M.Sc., Dr. Armiati, M.Pd., and Rara Sandhy Winanda, M.Sc.
Language:	Indonesian Language and English
Classification within the curriculum:	Compulsory course in the third year (4th semester) Bachelor Degree
Teaching format / class hours per week during the semester:	a. Lectures : Problem Based Learning with methods such as expository, discussion, and drill. (3 x 50 minutes = 0 minutes) b. Structured assignment : Weekly individual/ group written assignment. (3 x 60 minutes = 180 minutes). c. Individual study (3 x 60 minutes = 180 minutes).
Workload:	The total workload is 136 hours per semester, which consists of 150 minutes lectures, 180 minutes structured assignment, and 180 minutes of individual study. In total, there are 16 weeks per semester, including midterm and final exams.
Credit points:	3 SKS = 4.53 ECTS
Prerequisites course(s):	Introduction to Foundation of Mathematics

Course outcomes:	After taking this course, the students have the ability to: CO1. Solve problems using the counting, induction, and recursion principles, or discrete probability, generating function, graph theory, and Boolean algebra. CO2. Prove mathematical statements using the concept of the pigeonhole principle. CO3. Using related mathematical software to solve problems involving generating functions and Boolean algebra.
Content:	1. Counting 2. Advanced Counting Techniques 3. Fungsi Pembangkit 4. Relasi Rekursif 5. Graf 6. Tree 7. Poset, Lattice 8. Aljabar Boolean.
Study/exam achievements:	The final grade will be weighted as follows: The assessment consists of a final exam (30%), a midterm exam 30%), assignment (15 %), and class activities/discussion (25%). The final and midterm exams are essay tests with a closed book (120 minutes). In class, students build the concept (discussion) based on the problem that is related to this course. Each student gets a weekly assignment as an individual or group.
Forms of media:	White Board, laptop, Projector, e-learning via elearning2.unp.ac.id, and zoom meeting.
Literature:	Main: 1. Rosen, Kenneth H. (2011). Discrete Mathematics and Its Applications 7th ed. Singapore: Mc Graw Hill International 2. Budayasa, I Ketut. (1995) Matematika Diskrit I. Surabaya: IKIP Surabaya Recommended: 1. Lipschutz, Seymour, dkk (2002), Matematika Diskrit 1. Jakarta: Salemba Teknika 2. Anderson, James A. (2000). Discrete Mathematics with

	Combinatorial. New York: Prentice-Hall, Inc 3. Munir, Rinaldi. (2009). Matematika Diskrit, Edisi Ketiga. Bandung: Informatika 4. Siang, Jong Jek. (2002). Matematika Diskrit dan Aplikasinya pada Ilmu Komputer. Yogyakarta: Penerbit Andi. 5. Sutarno, Heri dkk. (2005) Matematika Diskrit, Malang: Universitas Negeri Malang.

PLO and CO Mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1									✔	
CO2				✔						
CO3						✔				