MODULE HANDBOOK
Combinatorial Analysis

BACHELOR DEGREE PROGRAM

DEPARTMENT OF MATHEMATICS

FACULTY OF SCIENCE AND DATA ANALYTICS

INSTITUT TEKNOLOGI SEPULUH NOPEMBER

MODULE HANDBOOK

Combinatorial Analysis

Module name	**Combinatorial Analysis**
Module level	Undergraduate
Code	KM184202
Course (if applicable)	Combinatorial Analysis
Semester	Fall (Gasal)
Person responsible for the module	Dr. Dieky Adzkiya, M.Si
Lecturer	Dr. Dieky Adzkiya, M.Si
Language	Bahasa Indonesia and English
Relation to curriculum	Undergraduate degree program, **mandatory**, 7th semester.
Type of teaching, contact hours	Lectures, <60 students Tuesdays, 11.00-12.50 (GMT+7)
Workload	1. Lectures : 3 x 50 = 150 minutes per week. 2. Exercises and Assignments : 3 x 60 = 180 minutes (3 hours) per week. 3. Private learning : 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks)
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Mandatory prerequisites	-
Learning outcomes and their corresponding PLOs	Course Learning Outcome (CLO) after completing this module, ● Students are able to explain the basic principles of the theory they understand, especially those related to permutations and combinations, the principle of pigeon cage. ● Students are able to relate basic principles and PHP to apply recurrence and inclusion-recursion relations.
Content	In this course students will learn about Permutations and Combinations, Pigeon Cage Principles (PHP), Binomial Coefficients, Inclusion-Exclusion Principles, Recurrence Relationships. In classroom learning, students learn and are able to understand and apply combinatorial principles to everyday problems.

Study and examination requirements and forms of examination	● In-class exercises ● Assignment 1, 2, 3 ● Mid-term examination ● Final examination
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.
Reading list	Main : 1. Brualdi R. A.,"Introductory Combinatorics", Pearson Prentice-Hall, 2004 Supporting : 1. Abdul Kadir, "Algoritma & Pemrograman Menggunakan Java", Andi Offset, 2012