MODULE HANDBOOK
DATA MINING

BACHELOR DEGREE PROGRAM
DEPARTMENT OF MATHEMATICS
FACULTY OF SCIENCE AND DATA ANALYTICS
INSTITUT TEKNOLOGI SEPULUH NOPEMBER

Module name	**Data Mining**
Module level	Undergraduate
Code	KM184601
Course (if applicable)	Data Mining
Semester	Fall (Gasal)
Person responsible for the module	-
Lecturer	**Dr. Imam Mukhlash, S.Si., MT,** **Mohammad Iqbal, S.Si., M.Si**
Language	Bahasa Indonesia and English
Relation to curriculum	Undergraduate degree program, **elective**, 7th semester.
Type of teaching, contact hours	Lectures, <60 students Tuesdays, 11.00-12.50 (GMT+7)
Workload	1. Lectures : 2 x 50 = 150 minutes per week. 2. Exercises and Assignments : 2 x 60 = 120 minutes (2 hours) per week. 3. Private learning : 2 x 60 = 120 minutes (2 hours) per week.
Credit points	2 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	Database System
Learning outcomes and their corresponding PLOs	Course Learning Outcome (CLO) after completing this module, CLO-1: Students are able to apply mathematical and computational thinking based on pattern recognition algorithms to support the development of software and intelligent systems. CLO-2: Students are able to solve and provide alternative solutions in the problem of pattern discovery in large-scale data with data mining algorithm approaches either independently or in teamwork CLO-3: Students are able to explain the concepts of data mining which include KDD process, task in data mining

	(classification, clustering, association, sequence), and its application	
Content	The increasing use of information technology and systems causes the volume of data to increase very rapidly. Data mining provides methods and tools for making use of data through discovering patterns of hidden, interesting, and useful knowledge from data. Topics include basic data mining concepts, data preprocessing, classification, clustering, association, sequence patterns, mathematical applications for data mining, data mining applications: web mining, spatial data mining and so on. The lecture method includes tutorials and class discussions. In addition, to train students' skills in cooperation and communication, a project will be given in the form of problem solving with existing data mining tools. This project will be completed in a group and given at the end of the lecture. The appraisal method includes a written evaluation and assessment of the process and design, and how to present it.	
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. Jiawei Han, Micheline Kamber, Jian Pei, Data Mining: Concepts and Techniques, Third Edition, Morgan Kaufmann Publisher, 2012 Supporting: 1. Pang Ning Tan, Michael Steinbach, dan Vipin Kumar, Introduction to Data Mining, Addison Wesley, 2006	