HANDBOOK

BACHELOR OF INFORMATICS PROGRAM
DEPARTMENT OF INFORMATICS
FACULTY OF INTELLIGENT ELECTRICAL AND INFORMATICS TECHNOLOGY
INSTITUT TEKNOLOGI SEPULUH NOPEMBER

Module name	**Big Data**
Module level	Undergraduate
Code	IF184966
Courses (if applicable)	**Big Data**
Semester	8
Contact person	
Lecturer	
Language	Bahasa Indonesia dan English
Relation to curriculum	1. Undergraduate degree program; optional; 8th semester. 2. International undergraduate program; optional; 8th semester.
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 40 students
Workload	1. Lectures: 3 sks x 50 = 150 minutes (2 hours 30 minutes) per week. 2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week. Private study: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks).
Requirements according to the examination	A student must have attended at least 80% of the lectures to sit in the exams.

regulations		
Mandatory prerequisites	Database System	
	After completing this module, a student is expected to:	

Learning outcomes and their corresponding PLOs	**CO1** The students are able to understand the design and architecture of several large-scale data storage systems (Hadoop, graph based database, etc.)	
	CO2 The students understand and are able to apply several data mining methods for large-scale data	
	CO3 The students are able to apply big data principles in real cases (content recommendation systems, advertisements, and social networks).	
	CO4 The students understand and are able to apply optimization in large-scale data processing.	
Content	Knowledge: Mastering the concepts and principles of capturing, processing and storing information in various forms Specific Skill: Able to collect, digitize, and process data into new useful information using effective and efficient data storage and modeling	
Study and examination requirements and forms of examination	Mid-terms examination and Final examination.	
Media employed	LCD, whiteboard, websites, books (as references), etc.	
Assessments and Evaluation		

Reading List	• J. Leskovec, A. Rajaraman and J. Ullman, "Mining of Massive Datasets," 15 August 2014. [Online]. Available: http://www.mmds.org/ • H. Cuesta, Practical Data Analysis, Birmingham: Packt Publishing Ltd., 2013. • V. Mayer-Schönberger and K. Cukier, Big Data: A Revolution That Will Transform How We Live, Work, and Think, New York: Eamon Dolan/Houghton Mifflin Harcour, 2013. • N. Sawant and H. Shah, Big Data Application Architecture Q&A, A Problem - Solution Approach, New York: Apress, 2013. • P. Giacomelli, Apache Mahout Cookbook, Mumbai: Packt Publishing, 2013. • V. Prajapati, Big Data Analytics with R and Hadoop (Community Experience Distilled), Mumbai: Packt Publishing, 2013.