# MODULE HANDBOOK
## Database Technology

# BACHELOR DEGREE PROGRAM
## DEPARTMENT OF MATHEMATICS
### FACULTY OF SCIENCE AND DATA ANALYTICS

## INSTITUT TEKNOLOGI SEPULUH NOPEMBER

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# Database Technology

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| Module name | **Database Technology** |
| Module level | Undergraduate |
| Code | KM144834 |
| Course (if applicable) | **Database Technology** |
| Semester | Spring (Genap) |
| Person responsible for the module | **Dr. Budi Setiyono, S.Si, MT** |
| Lecturer | **Dr. Budi Setiyono, S.Si, MT** |
| Language | Indonesia and English |
| Relation to curriculum | Undergraduate degree program, **elective**, 8th semester. |
| Type of teaching, contact hours | Lectures, <60 students |
| Workload | 1. Lectures : 2 x 50 = 100 minutes per week.<br>2. Exercises and Assignments : 2 x 60 = 120 minutes (2 hours) per week.<br>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,<br>1. Able to understand the concept of Query processing and transaction processing in the database<br>2. Able to understand and apply advanced SQL programming to improve database performance perfomansi<br>3. Able to understand the basic concepts of distributed databases<br>4. Able to explain and understand the latest database applications, which include data warehouse, OLAP, Spatial database and multimedia database<br>5. Be able to recognize and explain about securities data base | |

| Content | This course has a prerequisite database system. In this course students are given an understanding of how the Base Management System will perform processing in the query, perform query optimization with SQL programming so that it can improve the performance of the database. In this matakuiah also explained about the technology and the concept of data base distribution, how to design and query in it. In addition, in this subject is also studied the latest database technologies that include datawarehouse, OLAP and multimedia databases. At the end of the course is also given knowledge about user permissions. |
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| Study and examination requirements and forms of examination | • In-class exercises<br>• Assignment 1, 2<br>• Mid-term examination<br>• Final examination |
| Media employed | LCD, whiteboard, websites (myITS Classroom), zoom. |
| Reading lists | Main:<br>1. Ramez A. Elmasri, Shamkant B. Navathe, "Fundamentals of Database Systems", ADDISON WESLEY Publishing Company Incorporated, 2011<br>2. Abraham Silberschatz, Henry F. Korth, S. Sudarshan, "Database System Concepts", McGraw-Hill Companies, 2011<br>Supporting reference:<br>1. R. Ramakrishnan and J. Gehrke, Database Management Systems, 3rd Edition, New York: The McGraw-Hill Companies, Inc., 2003 |