

## TIF21-22-42

### Database Technology

### Teknologi Basis Data

#### BASIC INFORMATION

<b>Course Credit</b>	3 / 150 minutes per Week
<b>Course Type</b>	Required
<b>Course Classification</b>	Engineering Topics
<b>Prerequisites</b>	-

#### STUDENT AND LEARNING OUTCOMES

##### Covered Student Outcomes

Fundamental and Engineering Knowledge (a)	Data and Experiments (d)
Development of Engineering Solution (b)	Modern Tools Utilization (e)

##### Learning Outcomes

- LO1** Students are able to explain the role of database in the organization and the role of database development in system development life cycle
- LO2** Students are able to convert the conceptual data model into a relational data model performed at the logical database design stage.
- LO3** Students are able to apply data modeling using entity-relationship diagram and enhanced entity relationship diagram.
- LO4** Student are able to implement the design into database management system software efficiently.
- LO5** Students are able to explain the advance concept of database include: distributed databases, client-server architecture, data warehousing, data mining, and database administration.
- LO6** Students are able to use ERD and DBMS software to design a database.

#### COURSE DESCRIPTION

In this course, student will learn and apply the logical and physical design, and how to implement the design in the database management system.

## TOPICS

1. Database environment
2. Modeling data in organization
3. Enhanced ER diagram
4. Logical database design
5. Physical database design
6. Structure query language
7. Database application development
8. Datawarehouse
9. Data quality and integration
10. Database administration
11. Distributed database

## REFERENCES

- [1] Jeffrey A. Hoffer, Mary B. Prescott, and Heikki Topi, *Modern Database Management (10th edition)*, Prentice Hall, 2011.
- [2] Michael J. Hernandez., *Database Design for Mere Mortals®: A Hands-on Guide to Relational Database Design, Third Edition*, Addison-Wesley Professional. 2013.