Module Description

Module name	Database
Module level, if applicable	Bachelor of Informatics
Code, if applicable	21D12120202
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	3rd
Person responsible for the module	Dr. Eng. Zulkifli Tahir ST. MSc.
Lecturer	1. Dr. Eng. Zulkifli Tahir ST. MSc. 2. Prof. Dr. Ir. Ansar Suyuti, MT. IPU.,ASEAN.Eng 3. Ais Prayogi A. ST. M.Eng. 4. Dr.Eng. Ady Wahyudi Paundu, ST.,MT. 5. Anugrayani Bustamin, S.T., M.T. 6. Iqra Aswad, S.T., M.T.
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a compulsory course and offered in the 3rd semester.
Type of teaching, contact hours	Teaching methods: [group discussion], [case study], [project-based learning], Teaching forms: [lecture], [tutoria], [practicum], CH: Weekday 08:00 - 16:00
Workload	For this course, students are required to meet a minimum of 90.67 hours in one semester, which consist of: - 26.67 hours for lecture, - 32 hours for structured assignments,

	- 32 hours for private study
Credit points	2 credit points (equivalent with 3.4 ECTS)
Requirements according to the examination regulations	Students have participated in at least 80% of the learning activities (Academic Regulations, Chapter VII)
Recommended prerequisites	Algorithm and Data Structure,
Module objectives/intended learning outcomes	After completing the course, Students are able: **Intended Learning Outcomes (ILO):** **ILO 1 :** Have the knowledge of fundamental in Computing Science that includes basic theory and concepts of computer science, Mathematics and Statistics, Programming Algorithm, Software Engineering, Information Management and Digital Resilience, also the advance topics of either Artificial Intelligence, Data Science, Computer Network, Cloud Computing or Internet of Things. [ILO1] - K **ILO 3 :** Apply the knowledge of computing and other related disciplines to analyze and identify solutions for any computing-based problem. [ILO3] - S **ILO 6 :** Perform effectively in a team, either as a member or leader, in activities related to the program's discipline. [ILO6] - C **Course Learning Objective (CLO):** After attending the Database I course, students have a basic knowledge of informatics including a specific theoretical concept in the field of Database knowledge including data and database concepts, database design, database management systems, data modeling, relational algebra. Students are also able to apply their knowledge in the database design process, use SQL as well as communicate database solutions for a problem domain convincingly and effectively. **Sub CLO :**

	ILO1=>CLO1: Students are able to understand basic database concepts, including data definition, database management, database systems, data modeling, functional dependency and normalize the relational data model, and relational algebra and its use in relational databases. ILO3=>CLO2: Students are able to make database designs with ER Diagrams, converting them to relational models in case studies. ILO6=>CLO3: Students are able to work together in groups to create database designs for specific problem domains using ER Diagram tools, normalization, transforming to physical models, and defining queries (DML, DDL, DQL).
Content	Students will learn about : 1. Data Processing and Database Theory 2. Relational Database Structure 3. Relational Algebra Concepts a. Basic operation b. Additional operation c. Extended Operation 4. Structured Query Language a. Data Definition Language (DDL) b. Data Manipulation Language (DML) c. Data Control Language (DCL) d. Data Query Language (DQL) 5. Database design a. Entity-Relationship Model b. Functional Dependencies c. Normalization
Forms of Assessment	Assessment is carried out based on written examinations, assessment / evaluation of the learning process and performance with the following components: Presence: 5% Structured tasks: 10% Practical tasks: 10% Mid Test: 35% Final Test: 40% Assessment techniques: [observation], [participation], [written test] Assessment forms: [quiz], [midterm exam], [final term exam], [assignment], [presentation] Quiz = 10%, MidTerm exam = 25% Final term exam = 25%, Assignment

	= 20%, Presentation = 20% ILO1=>CLO1 : 60% (Quiz, Midterm, Final term exam: written test) ILO3=>CLO2: 20% (Assignment: participation) ILO6=>CLO3: 20% (Presentation: observation)
Study and examination requirements and forms of examination	**Study and examination requirements:** - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc. - Students must submit all class assignments before the deadline. **Form of examination:** Written exam
Media employed	Video conference, Slide Presentation, Learning Management System (LMS).
Reading list	**Main :** Database System Concepts, Abraham Silberschatz 2019 **Support :** Database Systems: The Complete Book, Ullmann 2010