21B33C205 – Database

Module designation	Database (Undergraduate)
Semester(s) in which the module is taught	2nd
Person responsible for the module	Hasrul, S.Pd., M.T. Muliyadi, M.T. Alifya NFH, S.Pd., M.Pd.
Language	Indonesia – English
Relation to curriculum	This course is a compulsory course
Teaching methods	Lecture, Presentation, Practical
Workload (incl. contact hours, self-study hours)	CH: 09.00-17.00 Face to face: 3x50 minutes / week Independent Study: 3x50 minutes / week Structured assignment: 3x50 minutes / week
Credit points	3 SKS (equivalent 5.1 ECTS)
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	**Program Learning Outcomes (PLO)** PLO 3: Demonstrate a responsible attitude towards work in their field of expertise independently PLO 5: Able to design, engineer and implement software. PLO 7: Able to apply logical, critical, systematic and innovative thinking in the context of developing or implementing science and technology that pays attention to and applies appropriate humanities values with his field of expertise. **Course Learning Objectives (CLO)** This course provides understanding and mastery of database concepts, relational data models to describe or model a database with simple diagrams making it easier to create a complex or simple database, database formation and normalization techniques, use of query language (SQL) for searching, sorting, filtering, deleting and updating data as well as creating base application programs data in the development of computer-based data processing systems and the use of databases in information systems. **Sub CLO:**

	Sub-CLO 1: Students are able to explain the basic concepts of databases Sub-CLO 2: Students are able to describe database systems Sub-CLO 3: Students are able to construct an Entity Relationship Diagram/Entity Relationship Model Sub-CLO 4: Students are able to normalize tables in a database Sub-CLO 5: Students are able to apply the Relational Database Management System Sub-CLO 6 Students are able to prepare database designs Sub-CLO 7 Students are able to apply Structured Query Language in designing databases Sub-CLO 8 Students are able to apply Structured Query Language to manipulate data Sub-CLO 9 Students are able to design Web-based Databases (Introduction to PHP and MySQL) Sub-CLO 10 Students are able to implement database security
Content	Students will learn about: ● Basic Database Concepts ● Database Systems ● Entity Relationship Diagram Model ● Data Normalization ● Relational Database Management System ● Database Design ● Structured Query Language ● Database Connection ● Database Security ● Database Application Creation Project
Examination forms	Assessment Techniques: Exam, Presentation, Case Based Learning, Practical Learning Assessment Forms: Assignment, Presentation Assessment, Practical Exam
Study and examination requirements	● Students have to inform the lecturer when they are not able to attend the class due to sickness etc ● Active in making projects by showing participation in making projects in class ● Able to present and answer questions that exist during project presentations
Reading List	● Silberschatz, H.F.Korth, S.Sudarshan, Database System Concepts, 6th edition, McGraw-Hill, 2011 ● Connoly, T, Dkk, Database Solutions - A Step by Step Guide to Building Databases, 2nd Edition. ● Fathansyah, Basis Data, Informatika, Bandung, 2012