

## Database System

Course Title: Database System					
<b>Course Code:</b> CIT62005	<b>Student Workload:</b> 11,3 Hours / Weeks	<b>Credits:</b> 4 Credits (6 ECTS)	<b>Semester:</b> 2 <sup>nd</sup> Semester	<b>Frequency:</b> Even Semester	<b>Duration:</b> 16 Weeks/ Semester ( <i>Lecture:</i> 14 weeks; <i>Midterm assessment</i> : 1 week; <i>Final assessment</i> : 1 week)
<b>1</b>	<b>Types of Courses:</b> Knowledge Course Specific Skills	<b>Contact Hours:</b> <i>Lecturing:</i> 2.50 Hours/ Week; <i>Practical Work:</i> 0.83 Hours/ Week	<b>Independent Study:</b> <i>Self-study:</i> 4.00 Hours/ Week; <i>Structured Assignment:</i> 4.00 Hours/ Week	<b>Class Size:</b> 40 Students	
<b>2</b>	<b>Prerequisites for Participation (If Applicable):</b> -				
<b>3</b>	<b>Learning Outcomes:</b> <ol style="list-style-type: none"> <li>M1: Able to identify database requirements for the development of information systems of an organization, model the database structure, and solve problems through the execution of query syntax to meet the organization's data needs.</li> <li>M2: Able to apply database architecture to relational database management system tools that are popularly used by the industrial community such as MySQL and IBM DB2.</li> <li>M3: Demonstrate understanding and application of database models covering the initiation, installation, configuration, and query execution stages in the form of transactions to data extraction on relational database management system tools.</li> <li>M4: Demonstrating the ability to perform database modeling and its application to RDBMS tools to meet transaction needs (data manipulation and extraction).</li> </ol>				
<b>4</b>	<b>Subject aims/Content:</b> At the end of the course, students are expected: <ol style="list-style-type: none"> <li>L1: Students can understand the basic concepts of database.</li> <li>L2: Students are able to create entity relationship diagrams (ERD) and improve them into Enhanced Entity Relationship Diagrams (EERD) according to data needs.</li> <li>L3: Students are able to map ERD and EERD into a relational model.</li> <li>L4: Students are able to implement the relational model into the DBMS using the DDL command.</li> <li>L5: Students are able to implement DML commands.</li> <li>L6: Students can understand and be able to normalize databases.</li> <li>L7: Students can use database modeling tools to describe entities and relationships between entities to meet database needs.</li> <li>L8: Students can apply the database model to the selected RDBMS device.</li> <li>L9: Students can perform transactions, both manipulation and extraction of data from the RDBMS device used.</li> <li>L10: Students can demonstrate model building with database relational modeling tools using DBDesigner or Lucidchart (free-to-use online services).</li> <li>L11: Students can demonstrate the stages of installation, configuration, and implementation of the database model to the RDBMS server and perform data transactions (data manipulation operations and data extraction with SQL syntax)</li> </ol>				
<b>5</b>	<b>Teaching Methods:</b> Lecturing, Group Discussion, Case-Based Learning, Project-Based Learning				
<b>6</b>	<b>Assessment Methods:</b> Essay, multiple-choice, product assessment, project assessment, anecdotal record/logbook				

7	<b>This Course is Used in The Following Study Programme/s as Well:</b> -
8	<b>Responsibility for Course:</b> <ol style="list-style-type: none"><li>1. Issa Arwani, S.Kom., M.Sc.</li><li>2. Dian Eka Ratnawati, S.Si., M.Kom., Ph.D</li></ol>
9	<b>Other Information:</b> Bibliography: <ol style="list-style-type: none"><li>1. Elmasri, Fundamentals of Database System, 6<sup>th</sup> Edition, 2011</li><li>2. Neeraj Sharma, Database Fundamentals, 1<sup>st</sup> Edition, 2010</li><li>3. Raul Chong, Getting Started With DB2 Express-C, 3<sup>th</sup> Edition 2009</li></ol>