



Universitas Negeri Surabaya
Faculty of Engineering,
Undergraduate Study Program in Informatics Engineering

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date																																								
Database Technology	5520203099		T=3	P=0	ECTS=4.77	4	July 18, 2024																																								
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator																																									
			Aditya Prapanca, S.T., M.Kom.																																									
Learning model	Project Based Learning																																														
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																														
	Program Objectives (PO)																																														
	PLO-PO Matrix																																														
		<table border="1" style="margin: auto;"> <tr><td style="width: 30px;">P.O</td></tr> </table>						P.O																																							
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PO Matrix at the end of each learning stage (Sub-PO)																																															
	<table border="1" style="margin: auto;"> <tr> <td rowspan="2" style="width: 30px;">P.O</td> <td colspan="15" style="text-align: center;">Week</td> </tr> <tr> <td style="width: 20px;">1</td> <td style="width: 20px;">2</td> <td style="width: 20px;">3</td> <td style="width: 20px;">4</td> <td style="width: 20px;">5</td> <td style="width: 20px;">6</td> <td style="width: 20px;">7</td> <td style="width: 20px;">8</td> <td style="width: 20px;">9</td> <td style="width: 20px;">10</td> <td style="width: 20px;">11</td> <td style="width: 20px;">12</td> <td style="width: 20px;">13</td> <td style="width: 20px;">14</td> <td style="width: 20px;">15</td> <td style="width: 20px;">16</td> </tr> </table>															P.O	Week															1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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Short Course Description	This course examines database administration and modeling data on a large scale that is integrated with business rules as well as describing and implementing currently developing database technology. Understanding of complex queries, triggers, database tuning concepts, parallel databases, distributed databases, special data management, OODB and ORDB.																																														
References	Main :																																														
	<ol style="list-style-type: none"> 1. Carlos Coronel, Steven Morris, dan Peter Rob. 2013. Database Systems: Design, Implementation, and Management, Tenth Edition: Cengage Learning. 2. Cyrus Dasadia dan Amol Nayak. 2016. MongoDB Cookbook Second Edition: Packt Publishing Ltd. 3. Keng Siau dan John Erickson. 2010. Principle Advancements in Database Management Technologies: New Applications and Frameworks. Hershey. 4. Mario Piattini, 2000, Advanced Database Technology and Design, Artech House. 																																														
	Supporters:																																														
Supporting lecturer	Dr. Wiyli Yustanti, S.Si., M.Kom. Aries Dwi Indriyanti, S.Kom., M.Kom. I Made Suartana, S.Kom., M.Kom.																																														
Week-	Final abilities of each learning stage (Sub-PO)	Evaluation		Help Learning, Learning methods, Student Assignments, [Estimated time]		Learning materials [References]	Assessment Weight (%)																																								
		Indicator	Criteria & Form	Offline (offline)	Online (online)																																										
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)																																								

1	Students recall the meaning of RDBMS, Database Design, DDL, DML.	<ol style="list-style-type: none"> 1.Mention the meaning of RDBMS 2.Describes the Database design stages 3.Distinguish between DDL and DML 	Criteria: -	<p>Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50</p>			0%
2	Students understand and can implement View in MySQL	<ol style="list-style-type: none"> 1.Explain the concept of View in MySQL 2.Creating Views in MySQL 3.Create and Update Views with MySQL 4.View Management with MySQL 	Criteria: -	<p>Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50</p>			0%
3	Students understand and can implement Store Procedures in MySQL	<ol style="list-style-type: none"> 1.Explain the concept of Store Procedures in MySQL 2.Creating a Store Procedure in MySQL 3.Create and Update Store Procedures with MySQL 	Criteria: -	<p>Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50</p>			0%
4	Students understand and can implement triggers in MySQL	<ol style="list-style-type: none"> 1.Explain the concept of triggers in MySQL 2.Create triggers in MySQL 	Criteria: -	<p>Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50</p>			0%
5	Students know the problems that can arise during the database query process and matters related to query optimization.	<ol style="list-style-type: none"> 1.Mention several types of problems in the query. 2.Mentions how to optimize queries and databases. 3.Implement query optimization on MySQL database 	Criteria: -	<p>Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50</p>			0%
6	Students know the problems that arise related to database administration and can carry out database administration using MySQL.	<ol style="list-style-type: none"> 1.Calls access control in MySQL 2.Creating and managing users in MySQL 3.Performing MySQL database maintenance 4.Backing up the MySQL database 	Criteria: -	<p>Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50</p>			0%

7	Students differentiate between types of Database Connectivity and can implement Database Connectivity in MySQL	<ol style="list-style-type: none"> 1. Distinguishing Types of Database Connectivity 2. Create a program to access the MySQL database 	Criteria: -	Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50			0%
8	Midterm Exam (UTS)	<ol style="list-style-type: none"> 1. Students can answer questions related to the concept of views, procedures and triggers in databases 2. Students can solve problems related to query optimization in databases 3. Students can solve problems and implement connectivity in databases 	Criteria: -	Virtual Learning 2 X 50			0%
9	Students know the concept of Replication and implement Database Replication in MySQL	<ol style="list-style-type: none"> 1. Distinguish between types of Replication 2. Implementing Replication in MySQL database 	Criteria: -	Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50			0%
10	Students know the development of database technology	<ol style="list-style-type: none"> 1. Distinguishing Evolutionary Data Models 2. Distinguish between relational and non-relational databases 	Criteria: -	Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50			0%
11	Students know and can implement distributed databases.	<ol style="list-style-type: none"> 1. Explain the concept of distributed databases 2. Implement distributed database concepts 	Criteria: -	Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50			0%
12	Students can implement the latest technology in databases	Implementing a database using Redis	Criteria: -	Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50			0%

13	Students can implement the latest technology in databases	Implementing a database using MongoDB	Criteria: -	Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50			0%
14	Students can implement the latest technology in databases	- Implementing a database using PostgreSQL	Criteria: -	Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50			0%
15	Students can implement the latest technology in databases	Implementing a database using Cloud Database	Criteria: -	Approach: Scientific Model: Problem-based learning Method: Discussion, Presentation, Practicum 3 X 50			0%
16							0%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
		0%

Notes

- Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
- The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
- Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
- Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
- Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
- Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
- Forms of assessment:** test and non-test.
- Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
- Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
- Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
- TM=Face to face, PT=Structured assignments, BM=Independent study.

