Department of Mathematics
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Course	**Course Name**	**: Database Technology**
	Course Code	**: KM144834**
	Credit	**: 2**
	Semester	**: 8**

Description of Course	
This course has a prerequisite database system. In this course students are given an understanding of how the Base Management System will perform processing in the query, perform query optimization with SQL programming so that it can improve the performance of the database. In this matakuiah also explained about the technology and the concept of data base distribution, how to design and query in it. In addition, in this subject is also studied the latest database technologies that include datawarehouse, OLAP and multimedia databases. At the end of the course is also given knowledge about user permissions.	
Learning Outcome	
PLO 3	[C4] Students are able to analyze simple and practical problems in at least one field of analysis, algebra, modeling, system optimizations and computing sciences
PLO 4	[C5] Students are able to work on a simple and clearly defined scientific task and explain the results, both written and verbally either on the area of pure mathematics or applied mathematics or computing sciences
PLO 5	[C3] Students are able to make use of the principles of long life learning to improve knowledge and current issues on mathematics
Course Learning Outcome	

1. Able to understand the concept of Query processing and transaction processing in the database 2. Able to understand and apply advanced SQL programming to improve database performance perfomansi 3. Able to understand the basic concepts of distributed databases 4. Able to explain and understand the latest database applications, which include data warehouse, OLAP, Spatial database and multimedia database 5. Be able to recognize and explain about securities data base
Main Subject
1. Query processing and transaction processing a. Evaluate expression b. Algebraic Relation c. Implementation of Atomicity and Durability 2. SQL Programming a. Store procedures and functions, triggers, cursors b. Trigger in the database c. View, Error Handling 3. Distributed databases a. The concept of distributed databse b. Distributed database architectures c. Technique of Replication, fragmentation and data allocation d. Query processing in a distributed database 4. Latest database applications, Dataware house, OLAP, Spatial Database a. Data Warehouse, OLAP b. Spatial database c. Multimedia database 5. Securities in the data base a. Introduction of security in the database b. Management privillege c. SQL Injection
Prerequisites
Database System
Reference

1. Ramez A. Elmasri, Shamkant B. Navathe, “Fundamentals of Database Systems”, ADDISON WESLEY Publishing Company Incorporated, 2011
2. Abraham Silberschatz, Henry F. Korth, S. Sudarshan, “Database System Concepts”, McGraw-Hill Companies, 2011

Supporting Reference

1. R. Ramakrishnan and J. Gehrke, Database Management Systems, 3rd Edition, New York: The McGraw-Hill Companies, Inc., 2003.