

Course Name	DATABASE MANAGEMENT SYSTEMS		Course Code	ITEC 212		
Credit Hours	3		Contact Hours	Lecture	Lab	Tot
				2	2	4
Offered as	<input type="checkbox"/> University Requirement <input type="checkbox"/> College Requirement <input checked="" type="checkbox"/> Program Requirement <input checked="" type="checkbox"/> Core <input type="checkbox"/> Elective <input checked="" type="checkbox"/> ITEC <input type="checkbox"/> COMP <input type="checkbox"/> CNET					
Level	4		Prerequisite	ITEC 211		
Course Description: The primary goal of this course is to discuss some of the important topics related to database management systems (DBMS) like database storage and management, formatting of records, files and disk space management. The course will also discuss on file organization, indexing, properties of indexing, types of indexing. Moreover, transaction management which includes schedules, concurrent execution of transaction, lock-based concurrency control and crash recovery will be discussed in detail. It explains some advanced topics related to database tuning, query evaluation, optimization and management, query processing in distributed transactions and concurrency control, and recovery process. It also discusses few topics related to database security, ethical and privacy issues associated with DBMS.						
On completing this course, students will be able to: <ul style="list-style-type: none"> • Explain the concepts of storage media, records, and files, and the various techniques for placing file records on disk. • Apply appropriate indexing techniques to demonstrate how data is organized and accessed efficiently. • Describe the use of two-phase commit protocols in transaction management. • Analyze deadlock conditions and demonstrate techniques for prevention, avoidance, recovery, and handling starvation. • Differentiate between various types and architectures of distributed databases. • Evaluate principles of database security and access control mechanisms. • Construct SQL queries using database management concepts to solve real-world problems. 						
Assessment Methods	<input checked="" type="checkbox"/> Assignment	10%	<input checked="" type="checkbox"/> Mid Term	15%	<input checked="" type="checkbox"/> Mini Project	15%
	<input checked="" type="checkbox"/> Lab Exam	20%	<input checked="" type="checkbox"/> Final Exam	40%		
Text Book: <ul style="list-style-type: none"> ♦ Ramez Elmasri, Shamkant B. Navathe, "Fundamentals of Database Systems", Pearson New International Edition, 7th Edition, ISBN-10: 0133970779 ISBN-13: 9780133970777, 2016 						
Reference Books: <ul style="list-style-type: none"> ♦ Database Systems: Design, Implementation, & Management [Coronel, Carlos, Morris, ... ISBN-13: 978-1337627900. Edition. 13th. Publisher. Cengage Learning. ♦ Abraham Silberschatz, Henry F. Korth, S. Sudarshan, Database System Concepts, Sixth Edition, Tata McGraw-Hill 2006. ♦ Raghu Rama Kirshna, Johannes Gehrke, Database Management System, Third Edition, TATA MCGraw Hill, 2003. 						