

Department of Computer Science and Engineering
National Institute of Technology Calicut
Tentative Course Details – Monsoon Semester 2016
CS3002 DATABASE MANAGEMENT SYSTEMS

Pre-requisite: Nil

Course Outcomes:

CO1: Model, design and normalize databases for real life applications.

CO2: Code and deploy databases for applications using RDBMS like Mysql

CO3: Query Database applications using Query Languages like SQL

CO4: Undertake and successfully complete Database Development projects within the allotted time.

CO5: Deploy efficient IT solutions using free and open software and help the society

About the Lecture:

Lecture Hours (A/A+ slot): Mon (8-9AM), Tue (1-2PM), Wed (9-10AM) and Fri (10.15-11.15AM)

Lecture Hall: MB 207

About the Instructor:

Name: Nadiya T T

Room: MB 209E

Email: nadiyasabin@nitc.ac.in

References:

1. Ramez Elmasri and Shamkant B. Navathe, Fundamentals of Database Systems (5/e), Pearson Education, 2008.
2. Raghu Ramakrishnan and Johannes Gehrke, Database Management Systems (3/e), McGraw Hill, 2003.
3. Peter Rob and Carlos Coronel, Database Systems- Design, Implementation and Management (7/e), Cengage Learning, 2007.

Split up of marks:

MidTerm I	:	15 marks
MidTerm II	:	15 marks
Assignment/Quiz	:	20 marks
End Exam	:	50 marks

Course Schedule:

Sl. No.	WEEK #	TOPIC
1	WEEK 1	Database System concepts and architecture, Data modeling using Entity Relationship (ER) model
2	WEEK 2	Specialization, Generalization, The Relational Model
3	WEEK 3	Relational database design using ER to relational mapping, Domain Relational Calculus
4	WEEK 4	SQL, Relational algebra
5	WEEK 5	Relational calculus, Tuple Relational Calculus
6	WEEK 6	Test 1
7	WEEK 7	Database design theory and methodology, Functional dependencies
8	WEEK 8	Normalization of relations, Normal Forms
9	WEEK 9	Data Storage and indexing, Single level and multi level indexing
10	WEEK 10	Dynamic Multi level indexing using B Trees and B+ Trees
11	WEEK 11	Test 2
12	WEEK 12	Transaction processing concepts, Schedules
13	WEEK 13	Serializability, Concurrency control
14	WEEK 14	Two Phase Locking Techniques, Optimistic Concurrency Control
15	WEEK 15	Database recovery concepts and techniques, Introduction to database security
16	WEEK 16	Properties of relational decomposition, Algorithms for relational database schema design