Course Plan

Dr. Odelu Vanga

Department of Computer Science and Engineering
Indian Institute of Information Technology
Sri City - 517646, Chittoor, AP, India

odelu.vanga@iiits.in
https://sites.google.com/site/odeluvanga/home

Monsoon-2020

Content of the Course

Course Title	:	**Database Management Systems**
Textbook	:	**Database System Concepts**, Silberschatz, H. Korth and S. Sudarshan, McGraw-Hill Education, 6^{th} edition, 2010.

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Reference books:

R1. **Fundamentals of Database Systems**, R. Elmasri and S. B. Navathe, Pearson Education, 6^{th} edition, 2010.

R2. **An Introduction to Database Systems**,C. J. Date, A. Kannan, S. Swamynathan, 8^{th} edition, Pearson Education, 2006.

R3. **Principles of Database Systems**, J. D. Ullman, 2^{nd} edition, Galgotia Publications, 1999.

R4. **Database Management Systems**, R. Ramakrishnan and J. Gehrke, 3^{rd} edition, McGraw Hill Education, 2014.

University Data Files

STUDENT

Name	S_number	Class	Major
Smith	17	1	CSE
Brown	8	2	CSE

COURSE

C_name	C_number	Credits	Dept
ICS	CS1310	4	CSE
DS	CS3320	4	CSE
DM	MATH2410	3	MATH
DB	CS3380	3	CSE

SECTION

Section_ID	C_number	Sem	Year	Instructor
85	MATH2410	Fall	07	King
92	CS1310	Fall	07	Anderson
102	CS3320	Spring	08	Knuth
112	MATH2410	Fall	08	Chang
119	CS1310	Fall	08	Anderson
135	CS3380	Fall	08	Stone

GRADE_REPORT

S_number	Section_ID	Grade
17	112	B
17	119	C
8	85	A
8	92	A
8	102	B
8	135	A

PREREQUISITE

C_number	Prerequisite_no.
CS3380	CS3320
CS3380	MATH2410
CS3320	CS1310

- Simple to operate
- Better local control

Course Outline

- Database System Concepts and Architecture
  - Data Models, Schemas, and Instances
  - Programming Languages
  - Three-Schema Architecture
  - Data Independence
  - Database Languages and Interfaces
  - Centralized and Client/Server Architectures for DBMS.

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  - Super key, Candidate key, Primary key, Aggregation
  - Reducing ER diagrams to tables
  - Extended ER model

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  - Reducing ER diagrams to tables
  - Extended ER model
- Relational Model
  - Constraints, Languages, Design, and Programming
  - Relational Database Schemas
  - Update Operations and Dealing with Constraint Violations
  - Relational Algebra and Relational Calculus

Content of the Course

- SQL (Structured Query Language)
  - Data Definition and Data Types
  - Constraints, Queries, Insert, Delete, and Update Statements
  - Views, Stored Procedures and Functions
  - Database Triggers, SQL Injection.

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- Normalization for Relational Databases
  - Functional Dependencies and Normalization
  - Algorithms for Query Processing and Optimization
  - Transaction Processing, Concurrency Control Techniques
  - Database Recovery Techniques
  - Object and Object-Relational Databases
  - Database Security and Authorization

Evaluation Scheme

Component	Duration	Weightage(%)	Date & Time	Nature of Component
MidSem-I	90 min (?)	15%	—	Closed Book (?)
MidSem-II	90 min (?)	15%	—	Closed Book (?)
Lab Assignments*	*	40%	—	Open Book
EndSem	3 Hrs (?)	30%	—	Close Book (?)

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* Lab Assignments [40%]

- Planned Labs : 10 to 12
- Lab Participation (10%)
- Lab-Based-Quizzes : 3 (each - 10 %)
- No Makeup for LBQ

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- MCQ or Yes/No answer

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Remark

Evaluation method may change according to the institute guidelines.

Thank You