

CS107	Database Management Systems	L	T	P
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**Introduction:** Database Systems, View of Data Models, Database Languages, DBMS Architecture, Database Users and Data Independence.

**ER Modeling:** relation types, role and Structural Constraints, Extended ER Modeling Features, Design of an ER Database Schema, Reduction of ER Schema to Tables.

**Relational Model:** Relational Model Concepts, Relational Algebra.

**Introduction to SQL:** SQL data types and literals, Types of SQL commands, SQL operators, Tables, views and indexes, Queries and sub queries, Aggregate functions.

**Relational Database Design:** Functional and multi-valued Dependencies, Desirable Properties of Decomposition, Normalization up to 3 NF and BCNF.

**Selected Database Issues:** Security, Transaction Management, Introduction to Query Processing and Query Optimization, Concurrency Control, and Recovery Techniques.

***Suggested Readings:***

1. C. J. Date, An Introduction to Database Systems, Vol I & II, Addison Wesley.
2. A. Silberschatz, H. F. Korth, S. Sudarshan, Data Base System Concepts, McGraw Hill.
3. J. D. Ullman, Principles of Database Systems, Galgotia.
4. R. Elmasri, S. B. Navathe, Fundamentals of Database Systems, Pearson Education Asia.
5. R. Ramakrishnan, Database Management Systems, McGraw-Hill Education.