Database Systems

3 Credit Hours

Objectives

The course aims to introduce basic database concepts, different data models, data storage and retrieval techniques and database design techniques. The course primarily focuses on relational data model and DBMS concepts. The following topics will be covered in the course: Traditional File Based Systems, Roles in Database Environment, ANSI-SPARC Architecture, Data Manipulation Language (DML), Data Models, Multi-User DBMS Architectures, Relational Data Structures, Database Schemas, Relational Integrity, Introduction to SQL, Data Manipulation, Creating a Database, Tables, Index, Views, Transactions, Database Application Life Cycle, Database Planning, Database Design, Data Administration & Database Administration, Entity Types, Relationship Types, Structural Constrains, Problems with ER Models, Specialization/Generalization For EERD, Anomalies, Functional Dependency, Process of Normalization, Database Design Methodology, Database Security, Client Server Architecture, Centralized and Distributed Databases, Advance Topics.

Prerequisites

Data Structures and Algorithms

Text Book

C.J.Date, *Database Systems,* Addison Wesley Publications Co., 2004. ISBN-10: 0321197844

Reference Material

- R.Connolly and P.Begg, *Database Systems: A Practical Approach to Design, Implementation and Management,* Addison-Wesley Publications Company, 2003. ISBN-10: 0201342871
- Elmasri and Navathe, *Fundamentals of Database Systems*, 3/E, Addison-Wesley, ISBN: 0201741539

Database Systems Lab

1 Credit Hours

Relevant to the above topics