

CLEMSON CPSC 4620

Database Management Systems

CATALOG DESCRIPTION

Introduction to database/data communications concepts as related to the design of online information systems. Problems involving structuring, creating, maintaining, and accessing multiple-user databases are presented and solutions developed. Comparison of several commercially available teleprocessing monitor and database management systems is made.

PRE-REQUISITES

Clemson Students: [CPSC 2120](#) and [CPSC 2150](#), each with a C or better.

Transient/Visiting Students: A course in data structures and algorithms and Java/C++ familiarity.

COURSE LEARNING OUTCOMES

1. Identify major DBMS functions and describe their role in a database system.
2. Use a declarative query language to elicit information from a database (such as SQL).
3. Describe the basic principles of the relational data model.
4. Describe concepts in modeling notation (e.g., Entity- Relationship Diagrams or UML) and how they would be used.
5. Design and build a database system.
6. Describe basic concepts of query optimization and query optimization techniques.
7. List basic security issues in relational databases and describe common solutions to these issues.

BRIEF LIST OF TOPICS

Data models, entity/relationship modeling, advanced data modeling, normalization, introduction to SQL, transactions, concurrency, distributed databases, database security, database administration.

TEXTBOOK

Coronel & Morris. Database Systems: Implementation & Management. ISBN 9780357687536

Please note that this syllabus is a general plan for the course; a finalized syllabus will be distributed on the first day of classes with additional information.

