

COURSE DESCRIPTION

Dept., Number	CSci 575	Course Title	Database Systems II
Semester hours	3	Course Coordinator	Dawn E. Wilkins, Associate Professor

Current Catalog Description

Review of database systems with special emphasis on data description and manipulation languages; data normalization; functional dependencies; database design; data integrity and security; distributed data processing; design and implementation of a comprehensive project.

Textbook

Ramakrishnan and Gehrke. *Database Management Systems*, 3rd edition, McGraw-Hill Higher Education, 2003 (ISBN: 0-07-246563-8).

References

Class website: <http://www.cs.olemiss.edu/~dwilkins/CSCI575/fall07/syllabus.html>

Course Outcomes

After successfully completing this course, students:

1. understand the relational data model,
2. are able to design normalized relations,
3. are proficient at basic SQL,
4. understand the importance of data integrity, recovery, and security,
5. understand the database issues of transaction management and concurrency, control, indexing and query optimization,
6. can develop applications that perform database operations, including insert, delete, update and query.

Relationship between Course Outcomes and Program Outcomes

1. Understand the relational data model. Outcome (c)
2. Be able to design normalized relations. Outcomes (c) and (j)
3. Be proficient at basic sql. Outcome (c)
4. Understand the importance of data integrity, recovery, and security. Outcomes (e) and (g)
5. Understand the database issues of transaction management and concurrency control, indexing and query optimization. Outcome (j)
6. Be able to develop applications that perform database operations, including insert, delete, update and query. Outcomes (c) and (k)

Prerequisites by Topic

Introduction to databases (CSci 475) *or* operating systems (CSci 423 or 501)

Major Topics Covered in the Course

- Introduction to database systems
- Introduction to design
- Relational model
- Normal forms
- Relational algebra and calculus
- SQL, queries, constraints, triggers
- Unix, mySql
- Application development, JDBC
- Internet applications, PHP
- Storage and indexing
- Transaction management
- Concurrency control
- Crash recovery
- Security and authorization

Assessment Plan for the Course

This is an elective course offered approximately every two years. An offering typically has 2 examinations and 3-4 programming projects and a final project which requires a presentation. Outcomes are directly addressed by the assignments, examinations, and final project components.

How Data in the Course are Used to Assess Program Outcomes (unless adequately covered already in the assessment discussion under Criterion 4)

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Estimate Curriculum Category Content (Semester hours)

Area	Core	Advanced	Area	Core	Advanced
Variety of languages and systems		1.5	Algorithms	1.5	