COSC 3480: Design of File and Database Systems

http://www.cs.uh.edu/~mirkovic/cosc3480

LECTURES: TTH 11:30–1 IN 204 AH

LAB: TTH 10–11:30 IN HOFFMAN HALL (PGH) 376

OFFICE HOURS (TENTATIVE): TUESDAY AND THURSDAY 4–5

INSTRUCTOR: DRAGAN MIRKOVIC OFFICE: 221 PGH
TA: TBA

Course Description

Techniques for file organizations on secondary storage, performance, design and management of large integrated databases, data models, and query languages.

Prerequisites:

The class prerequisites are COSC 2320 or equivalent and MATH 3336 (taking MATH 3336 and COSC 3480 concurrently is okay).

Texts

1. **Required:** *Database Management Systems*, by Raghu Ramakrishnan and Johannes Gehrke. McGraw-Hill; 3rd edition (2003).

   One of the leading texts for database courses, known for its practical emphasis and comprehensive coverage.

2. **Recommended:** *Fundamentals of Database Systems* by Ramez Elmasri and Shamkant B. Navathe. Addison-Wesley, 4th edition (2004).

   This textbook combines clear explanations of theory and design, broad coverage of models and real systems, and excellent examples with up-to-date introductions and modern database technologies.

3. **Recommended:** *Database Systems: The Complete Book*, by Hector Garcia-Molina, Jeffrey D. Ullman and Jennifer D. Widom. Prentice Hall (2003).

   Written by well-known computer scientists, this introduction to database systems offers a comprehensive approach, focusing on database design, database use, and implementation of database applications and database management systems.

Evaluation

The homework assignments will not be graded. You will have to demonstrate your knowledge and understanding of these problems, though, by solving the similar problems in quizzess (approx. 2/month).

Lab Projects (5–6)	30%
Quizzes (5-7)	20%
Midterm Exam (around March 10)	20%
Final Exam	30%

1 Topics covered

- Introduction to Database Management
- The Relational Data Model
- SQL and Relational Algebra
- The Entity Relationship Data Model and Conceptual Schema Design
- Relational Database Design
- Data Warehousing and Data Mining
- Disks, Files, Storage Structures, Index Structures and Physical Database Design
- Internet Databases and XML
- Object-Oriented Databases

2 Academic Integrity

You are expected to maintain the utmost level of academic integrity in the course. Any violation of the code will be penalized severely. You are not allowed to collaborate on the homework assignments except for discussing the assignment with other students in the class. You are not allowed to share code or any other written material.