

EECE 4273/6273 DATABASE ENGINEERING

EECE 4273/6273: Logical database design, data models for database engineering; entity-relationship, relational, object oriented, logic data models; design theory for relational databases, relational query languages, introduction to integration of database and knowledge-base systems for engineering applications; emerging trends in database machine design and implementation.

Term: Fall 2003

Instructor: Dr. David J. Russomanno
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Text: 1. Fundamentals of Database Systems, R. Elmasri and S. Navathe, 4th Edition, Addison-Wesley, Inc.
2. Notes and papers

Prerequisites: ELEC2222 and ELEC3221 or exposure to discrete mathematics, programming, data structure concepts and elementary computer organization.

Course Outline:

Overview of Database Management Systems
Discrete Mathematics Review
Introduction to the Relational Data Model (RDM)
Entity-Relationship Data Model (ER)
ER to RDM Conversion
Relational Algebra and the Relational Data Model
Tuple and Domain Relational Calculus
SQL--A Relational Database Language
Functional Dependency Analysis
Join Dependency Analysis
Relational Database Design
XML and Internet Databases
Database and Knowledge-Base Systems for Engineering Applications

Grading¹:

1. Two Exams	(40%)
2. Final Exam	(20%)
4. Pop Quizzes	(10%)
5. Assignments (including in-class participation/term project)	(30%)

¹ Students enrolled in EECE 6273 may have additional/modified assignments and may be held to a higher standard than students in 4273.