

ELEC 7268/8268 OBJECT-ORIENTED DATA ENGINEERING

Catalog Description: Design of hardware and software from a perspective of interacting objects that combine data and behavior. Engineering data models, analysis and design processes, implementation, large engineering system issues, and reverse engineering. Object-oriented database design for CASE, CAD/CAM, and related engineering database environments.

Term: Fall 2004

Instructor: Dr. David J. Russomanno
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Text: 1. Object-Oriented Modeling and Design for Database Applications
Michael Blaha and William Premerlani
Prentice-Hall, 1997
2. Notes and papers

Software: Rational Rose and Rational XDE Modeler are available in ET 312.

Prerequisites: Exposure to discrete mathematics, C/C++ or Java programming, data structure concepts, relational database theory, and elementary computer organization.

Course Outline:

DISCRETE MATHEMATICS REVIEW
Sets, Functions, and Relations

OVERVIEW
Databases, Object Bases and Knowledge Bases.

ENGINEERING DATA MODELS
Basic Object Modeling, Advanced Object Modeling, Object Metamodeling,
and Functional Modeling.

ENGINEERING ANALYSIS AND DESIGN PROCESS
Process Preview, Conceptualization, and Analysis.
System Design.
Detailed Design.

IMPLEMENTATION.
Relational Databases.
Object-Oriented Databases.
Semantic Web.

LARGE ENGINEERING SYSTEM ISSUES.
Distributed Databases.
Integration of Applications.
Reverse Engineering.
Engineering Database Environments.

Grading:

1. Two Exams	(40%)
2. Final Exam	(20%)
3. Assignments	(10%)
4. Random Pop Quizzes	(10%)
4. Project	(20%)