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Spring 2006

CS 405/605: Introduction to Database Management Systems

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Wright State University - Main Campus

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CS 405/605 Introduction To Database Management Systems Spring 2006

Description: Survey of logical and physical aspects of database management systems. Entity Relationship, relational, object-oriented models for databases are presented. Physical Implementation methods are discussed.

Prerequisite: CS 400 Data Structures and Software Design.

Instructor: Dr. Kenneth Melendez, (937)429-3246, Kenneth.melendez@wright.edu, <http://www.wright.edu/~kenneth.melendez> (Location of Course Material)

Class: MW 2:45 – 4:00 Room 150 Russ

Office hour: Schedule an appointment via email.

Text Book: R. Elmasri and S. B. Navathe, Fundamentals of Database Systems, 4th edition, Addison Wesley, 2004

Topics: DBMS concepts and architecture (Chap 1, 2)
Entity-Relationship model (Chap 3,4)
Relational data model and relational algebra (Chap 5, 6, 7)
SQL - a relational database language (Chap 8, 9.)
Disk Storage, Basic File Structures, and Hashing (Chap 13)
Indexing Structures for files (Chap 14)

Grading: A:[90,100], B:[80,90), C:[70,80), D:[60,70), F:[0,60)

- Midterm 30% (May 1st, Monday), Project 30%, Final 40% (May 31st, Wednesday)
- Programming, project or DB design. Project Select one by May 10th.
- The final report is due on May 29th.

(1) Programming

Extendible hashing (Ref. Sec. 13.8.3) simulation using a high-level programming language (C, C++, Java, etc.),
{Design 5%, documentation 5%, correctness 15%, and discussion 5%},

(2) Small database design and SQL programming using MS-Access or some other DBMS

{Description of problem 4%, ER design 6%, Relational Schema 5%,
SQL queries and results 8%, discussion 7%}

CS 405/605 Class Schedule Spring 06

Date	Chapter	Topic	Due Dates
Week 1			
27-Mar	ch 1	Database and Database Users	
29-Mar	ch 2	Database System concepts and Architecture	
Week 2			
3-Apr	ch3	Data Modeling Using the Entity-Relationship Model	
5-Apr	ch3	Data Modeling Using the Entity-Relationship Model	
Week 3			
10-Apr	ch4	Enhanced Entity-Relationship and UML Modeling	
12-Apr	ch5	The Relational Data Model and Relational Database Constraints	
Week 4			
17-Apr	ch5	The Relational Data Model and Relational Database Constraints	
19-Apr	ch6	The Relational Algebra and Relational Calculus	
Week 5			
24-Apr	ch 6	The Relational Algebra and Relational Calculus	
26-Apr	ch13	Disk Storage, Basic File Structures, and Hashing	
Week 6			
1-May		MidTerm ch 1-6	
3-May	ch13	Disk Storage, Basic File Structures, and Hashing	
Week 7			
8-May	ch8	SQL-99: Schema Definitions, Basic Copnstraints, and Queries	
10-May	ch8	SQL-99: Schema Definitions, Basic Copnstraints, and Queries	Project Description Due
Week 8			
15-May	ch9	More SQL	
17-May	ch7	Relational Database Design by ER- abd ER-RelationalMapping	
Week 9			
22-May	ch7, 14	Relational Database Design by ER- abd ER-RelationalMapping. Indexing Structures for Files	
24-May	ch14	Indexing Structures for Files	Project Due
Week 10			
29-May		Holiday No Class.	
31-May		Final Exam ch 7-9 and 13-14	