

CS 405/605 Introduction To Database Management Systems, Fall 2009

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 Algorithms.

Instructor : Dr. Soon M. Chung, 403 Russ Center
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Class : M. W. 4:10-5:25 at 125 Oelman

Office hour : M. W. 2:30-3:30 p.m. at 403 Russ, or by appointment.
*use e-mail for short questions.

Text Book : R. Elmasri and S. B. Navathe, Fundamentals of Database Systems, 5th edition, Addison Wesley, 2007.

Topics : DBMS concepts and architecture (Chap 1, 2)
Entity-Relationship model (Chap 3)
Relational data model and relational algebra (Chap 5, 6)
ER to Relational mapping (Sec. 7.1)
SQL - a relational database language (Chap 8) (= Chap 8, Sec. 9.1 and 9.2 in 4th Ed.)
Record storage and file organizations (Chap 13)
Index structures (Chap 14)
Functional dependencies and normalization (Chap 10)

Grading : A:[85,100], B:[75,85), C:[65,75), D:[55,65), F:[0,55)

- There is no homework, but solutions of some exercise questions will be given.
- Midterm 30% (10/14, W.), Project 30%, Final 40% (11/16, M., 5:45-7:45 pm)
- Project is paper-review, programming, or DB design. Select one by 10/19.
- The final report is due on 11/16.
 - (1) 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% }
 - (2) 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%, discussion 5% },
 - (3) paper-review project
{ papers reviewed 6%, technical quality 8%, written presentation 7%, discussion 9% }
- submit the topic and a list of at least 4 selected papers by 10/19.
- submit the final report (around 25 pages in double space)