CS 701 Database Systems and Design

Winter Quarter, 2011

Description : Introduction of DB design concepts and operating principles of database systems.

Prerequisite : CS405/605 or equivalent.

Instructor : Dr. Soon M. Chung
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Class : M. W. 8:00-9:15 p.m., 153 Russ.

Office hour : M. Tu, 4:30-5:30 pm at 403 Russ Center, or by appointment.
* Use e-mail for short questions.

Text Book : R. Elmasri and S. B. Navathe, Fundamentals of Database Systems, 6th (or 5th) edition, Addison-Wesley.

Topics : File Structures and Hashing (ch. 17)
Indexing Structures for Files (ch. 18)
Relational DB Design Theory and Normalization (ch. 15, 16)
Query Processing and Optimization (ch. 19)
Transaction Processing, Concurrency Control and Recovery (ch. 21, 22, 23)
Enhanced ER Modeling (ch. 8, Section 9.2)
Object-Oriented Databases (ch. 11)
Distributed Databases (ch. 25)
Database Security(ch. 24)

Grading : A:[85,100], B:[75,85), C:[65,75), D:[55,65), F:[0,55)
Midterm 30% (on 2/14, M.), Final 40% (on 3/14, 8:00-10:00 p.m.), and Project 30%.
Project is either paper-review or DB Transaction programming (select by 2/21)

(1) paper-review project 30%
{ papers referenced 7%, technical quality of the report 7%
written presentation of the report 7%, discussion 9% }
- submit the topic and a list of selected papers by 2/21.
- submit the final report (around 25 pages in double space) by 3/14.

(2) DB Transaction programming 30%
{ specification 7%, design 7%,
correctness 7%, discussion 9% }
- submit a description of database and transactions by 2/21.
- submit the final report by 3/14.