CS 430 DATABASE SYSTEMS
Fall 2015

Class Time: 10-11:50 a.m. MWF
Class Venue: ENGA 320
Course Website (for now): http://www.cs.siu.edu/~dche/courses/CS430/

Instructor
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Course Description
The database system course (CS430) at SIUC concentrates on the relational model and emphasizes database application and development. Therefore we will address all aspects related and necessary with regard to database design and application development, including relational data model, fundamentals of DBMS (the software that automatically manages databases), database design, relational algebra (the theory of relational databases), database query language (SQL), database programming using Java (but not limited), database schema and performance tuning, etc.

Textbook
First Course in Database Systems, A, 3/E
Jeffrey D. Ullman & Jennifer Widom
ISBN-10: 013600637X
Publisher: Prentice Hall
Copyright: 2008
URL:http://www.pearsonhighered.com/educator/product/First-Course-in-Database-Systems-A/9780136006374.page

Prerequisite
330 with a grade of C or better; Experience with Java programming and GUI is expected.

Software
Java and Oracle 10g (or higher) for Windows [other programming language is OK as well]

Grading:
Exam 1  Sep. 21, Monday (tentative) 25%
Exam 2/Proj.  Nov. 13, Friday (tentative) 25%
Exam 3  To be scheduled 25%
Lab and Homework 25%
Quiz and Attendance 5% (bonus)

Remarks on grading policy:
1. Quizzes and good attendance records may earn you extra but critical credits (For example, when you overall score fall at the border between the grades “A” and “B”, your record of satisfactory quiz scores and good attendance will convince me you deserve the better grade “A”).
2. A comprehensive lab project will be given as replacement for Exam 2 (This practice has been repeatedly proven in the past as more welcome and constructive by the students. So we will keep this “tradition” of this course).
3. Your final letter grade will be decided according to the following “standard” scale:
   A ---- above 90 (of your overall percentage average score)
   B ---- 80 -- 89
   C ---- 70 -- 79
   D ---- 60 -- 69
   F ---- below 60
4. Score curving may be performed if the score distribution of the whole class appears abnormal which, however, happens rarely.
5. As usual, any kind of cheating is not allowed and will be punished according to relevant university/department policies.
6. All assignments must be independently completed unless announced differently.
7. Important Node: You can discuss any problem, but shall not try to negotiate with the instructor for a better grade and shall not try to challenge the instructor’s grading policy that has been set with the whole class in mind. When it is not a “black and white” type of problem in a test and your answer is not completely right. It is impossible to precisely quantify to what percent you are right and thus to ask for a commensurate portion of the points of that problem. As long as potential misunderstanding is clarified, you shall leave it to the instructor’s discretion. Be aware that after the same “grading scale” have been applied to all the students in the class, your request for a more generous score (even though might sound reasonable) simply means that a similar change needs be made to all other students with similar cases – a disaster that every instructor would try to avoid. The instructor must assure basic fairness to the whole class. Students shall not make any individual request that conflicts with this basic “fairness rule”.

Topics to be covered
2. Introduction to the Relational Data Model.
5. Algebraic and Logical Query Languages (Relational Algebra).
6. The Database Language SQL (at this point, you will be ready for the big project).
7. SQL Constraints and Triggers.
8. SQL Indexes and Views.
9. SQL in a Service Environment.
10. Advanced Topics in SQL.

Remarks on the topics:
1. Lab sessions on Oracle will be scheduled at the due time as needed
2. The topics listed above can be too ambitious. So some subtopics may be compressed or skipped

Academic Cheating & Prevention
Simply put, students shall do all assignments individually and by themselves, though they can seek help from each
other through discussion but must never copy from others, including program code, either partially or entirely. If identified, both sides involved will be punished according to department and/or university policies.

University Syllabus Attachment: please click here