Course Syllabus

Course Information

Course Prefix, Number, Section	CS 7301.006
Course Title	Advanced Database Design
Term	Fall 2016
Days & Times	**M/W 1:00pm - 2:15 pm, JO 3.536**

Professor Contact Information

Professor	Dr. Weili (Lily) Wu
Office Phone	972 883 2194
Other Phone	
Email Address	weiliwu@utdallas.edu
Office Location	ECSS 3.229
Office Hours	M/W 2:15-3:13 pm
Other Information	

Course Pre-requisites, Co-requisites, and/or Other Restrictions

CS5343 Algorithm Analysis and Data Structure or equivalent

Course Description

Topics: Database management concepts, data models, query languages, database design theory, transactions processing, concurrency control, recovery, and trends (social network, big data, etc)

Student Learning Objectives/Outcomes

Study methods, principles and concepts that are relevant to the design of database systems. Analyze issues related to database systems from several perspectives (designer, programmer, user, administrator).

Required Textbooks and Materials

Required Texts

Elmasri and Navathe, Fundamentals of Database Systems, 6th Edition, Addison Wesley, ISBN-13: 978-0-13-608620-8; ISBN-10: 978-0-13-608620-9.

Assignments & Academic Calendar
Topics, Reading Assignments, Due Dates, Exam Dates

SCHEDULE for CS 7301 Advanced Database Design
The tentative schedule indicates the concepts and material to be covered in each week under the column labelled "Lecture Topics". The chapters in the textbook are referred to by the chapter number.
Homeworks will be due on **Mondays**.

Week	Dates	Lecture Topics	Textbook	Due
1	8/22-24	Overview of DBMS (lec1.pdf), (slide2.pdf)	1, 2	
2	8/29-8/31	ER Model (ER_EER.pdf)	7, 8	
3	9/7	More ER EER Model (pdf),	7, 8	
4	9/12-14	More ER EER Model (pdf), Oracle tutorial Relational Data Model Lec6 (pdf file), Updated Relational Operations (pdf).	7, 8 3	HW1
5	9/19-21	Review Relational Model, Lec8 (pdf).	3	
6	9/26-28	ER/EER-to-Relational Mapping, lec9 (pdf).	9	Project I
7	10/3-5	Relational Algebra (pdf). More Rel. Algebra (pdf).	6	
8	10/10-12	Exam 1 (Exam 1 Review);		HW2
9	10/17-19	SQL (pdf)	4, 5	
10	10/24-26	More SQL (pdf)	4, 5	Project II
11	10/31-11/2	Exam 1 Feedback and More SQL (pdf)	4, 5	
12	11/7-9	More SQL (Supplementary slides)(pdf) Functional Dependency and Normalization (pdf).	15,16	
13	11/14-16	Functional Dependency and Normalization (pdf); Transaction Processing Concepts (pdf).	15,16 21	
14	11/21-23	Fall Break and Thanksgiving		
15	11/28-30-	Transaction Processing Concepts, Concurrency Control(CCT) (pdf)	21, 22, 25	Project III, HW3;
16	12/5-7	Final Review (pdf); Exam 2 : Dec 7, 2016 TBD ;	23, 19	ProjectIV, Demo
17	12/9- 15, 2015	Project Demo, Final Exam Week	19	Demo

Grading Policy

- Assignments:
  - 1 @ 3%, 2@5%, 3@7% = 15% of grade.
- Project: 15% oh grade,
- Exam 1: 30% of grade.

• Exam 2: 40% of grade.

• Conditions for passing the class:
- Submit all HWs and Project.
- Scoring >= 50% on final exam

Course Policies

Make-up exams

There will be no makeup exams unless there is a serious conflict that prevents you to take the exam on scheduled date and time and prior notification of such a condition is required.

Home Work Submission

All home works must be submitted via eLearning. Turn in what is completed by the deadline for partial credit

Late Work

Late HWs will be accepted with penalty:
- 1 day -- 30% will be deducted
- 2 days – 70% will be deducted (count weekend days)
- >=3 days – no credit

Class Attendance

Regular class attendance and participation is expected and is the responsibility of each individual. The department policy for attendance is: **three consecutive absences result in one letter grade drop and four consecutive absences result in an F**.

Cheating/ Collaboration

You should do your own work on exams and for assignments. Getting help from services like general debugging service (GDS), copying someone else's assignment or the common solution of written or programming assignments from the internet, instructor's manual, etc. will be considered cheating. The purpose of assignments is to provide individual feedback as well to get you thinking. Interaction for the purpose of understanding a problem is not considered cheating and will be encouraged. However, the actual solution to problems *must* be one's own. Copying another student's work is not acceptable. Any indication of cheating and/or plagiarism on an exam/assignment/project will be an automatic 0 (zero) for the exam/assignment/project for all students involved.

Classroom Citizenship

- During the lectures, cell phones are not allowed. This is due to two important reasons: 1. It potentially causes distraction and this affects the overall quality of the lecture. 2. Research shows student performance is adversely affected by digital device use and those students who are engaged in cell phone/laptop use receive lower final grades as compared to their peers who do not use any electronic device and take paper and pen notes.

- Once you come to class, it is not appropriate to leave the class early for any reason. If you know you have to leave early for an unavoidable and important reason, make sure you sit close to the door and leave the classroom without distracting others while leaving. For the same reason, you also make sure you come to class on time.

- If a student should elect not to attend a class, (s)he is responsible for any handouts, announcements, reading material and contents of missed lectures.

Helpful Comments

- This class is very interesting and useful. However, a lot of material will be covered and many new concepts will be introduced. To get full benefit out of the class you have to work regularly. Read the textbook regularly and start working on the assignments soon after they are handed out. Plan to spend at least 10 hrs a week on this class doing assignments or reading.
- If there are questions/doubts about grading, please see the grader or instructor within one week of the grade announcement.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.