Texas Wesleyan University Course Syllabus
Fall 2016

Course: CSC4341-01 (Principles of Database Systems)
Meet: TTH 10:50pm, STC108
Instructor: Yukong Zhang
Office: McFadden 103
Phone: (817) 531-4885
Office Hours: TTH 10-11 & MW 1:00-3:30
Email: yzhang@txwes.edu
Web: http://cs.txwes.edu/

Course Description

Prerequisite: CSC2320 (Data Structures) and MAT3381 (Discrete Mathematics)
A study of database design and management focusing on the relational model. Topics include data modeling, data definition, data manipulation, normalization, query optimization, and data integrity.

Learning Objectives

This course is intended for the senior computer science majors. Students completing the course will: (1) gain theoretical and practical understanding of database management systems, (2) obtain hands-on experience in database systems design and implementation and (3) be familiar with relational database design principles, SQL, normalization, and integrity of databases.

Required Materials

- Instructor's handouts

Instructional Methods

The instructions will be conducted through classroom lectures and discussion along with web assistance. Students will be assigned homework problems. Exams will be given during the semester.
Class Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Week 1-2:</td>
<td>Overview of Database Management.</td>
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<tr>
<td>Week 3 :</td>
<td>Database System Architecture.</td>
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<td>Week 4:</td>
<td>An Introduction to Relational Databases.</td>
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<td>Week 5-6:</td>
<td>Introduction to SQL.</td>
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<td>Exam 1</td>
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<td>Week 7:</td>
<td>Types, relations, relational Algebra.</td>
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<td>Week 8:</td>
<td>Integrity.</td>
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<td>Week 9:</td>
<td>Views</td>
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<td>Week 10</td>
<td>Functional Dependencies.</td>
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<td>Week 11-12:</td>
<td>Further Normalization I: 1NF, 2NF, 3NF, BCNF.</td>
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<td>Exam 2</td>
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<td>Week 13:</td>
<td>Semantic Modeling.</td>
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<td>Week 14-15:</td>
<td>Advanced Topics.</td>
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<td>Final Exam</td>
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Evaluation and Grading

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<thead>
<tr>
<th>Category</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Homework</td>
<td>30%</td>
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<tr>
<td>Project</td>
<td>20%</td>
</tr>
<tr>
<td>Two Exams</td>
<td>30%</td>
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<tr>
<td>Final</td>
<td>20%</td>
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The assignments will be weighted by difficulty. All the assignments are due on the date specified. Grades of all assignments and exams are posted online at www.engrade.com. Students are encouraged to check their grades on a regular basis.

Absence Policy

The absence policy specified in the current Texas Wesleyan University Catalog and Student Handbook will be used. Regular and punctual attendance at all scheduled classes is expected of all students. University regulations authorize absences of students when representing the University (e.g. at athletic, student government, student development, or fine arts events). Other authorized absences are those that may be necessary to fulfill course requirements. Unless otherwise specified by the instructor in the course syllabus, the maximum number of authorized absences during one semester is five for a Monday-Wednesday-Friday class, three for a Tuesday-Thursday class, and two for a class or laboratory meeting once a week. Unauthorized absences may be

1This is a tentative schedule. It is subject to change as the class progresses
excused when caused by illness or other emergencies and should be reported promptly to
the instructor. A student is held responsible for all class assignments. When a student
has a number of unauthorized absences equal to the number of hours the class meets
per week, the student may be dropped from the class roll by the instructor of the class.
(page 101 in 2012-13 Undergraduate Catalog)

Academic Integrity

You are allowed and encouraged to study in groups, provided that it is done in a way
that benefit all students involved. However, if one person simply tells another how to
do a problem or gives another a copy of his/her program, it totally defeats the purpose
of the assignment. You will get maximum benefit from an assignment if you work hard
on it alone before discussing with others. In any case, the assignment you turn in with
your name on it should be written in your own words and represent your own effort.
Sharing homework solutions and program code is not allowed. It will be treated as
a violation of the University’s Academic Integrity Code. All students involved will be
reported and recorded. In addition, copying solutions from the Internet or other source is
illegal. Please see the University Catalog and Student Handbook regarding appropriate
standards of conduct in courses at Texas Wesleyan University.

Texas Wesleyan University Policies

• Students should read the current Texas Wesleyan University Catalog and Student
  Handbook to become familiar with University policies. These policies include but
  are not limited to grade appeal, sexual harassment, student access to records,
  and others; policies specified in the current catalog are applicable unless otherwise
  stated in this syllabus.

• Texas Wesleyan University adheres to a disability policy which is in keeping with
  relevant federal law. The University will provide appropriate accommodation as
determined by the Director of the Counseling Center, Dr. Michael Ellison. Students
must notify instructors of any permanent or temporary disabilities and must
provide documentation regarding those disabilities prior to the granting of an ac-
modation. For assistance, students should consult with Dr. Ellison at melli-
son@txwes.edu or (817) 531-7565.

• Due to the limitless variety of potentially hazardous chemicals that may be found in
a scientific or other laboratory environment, students having known, or potential,
health-related concerns, such as allergies, asthma, contact dermatitis, pregnancy,
or other physiological sensitivities should check with their physician on the advis-
ability of laboratory work. The instructor and/or chair of the teaching department
will provide, upon request, a list of chemicals that will be used in experiments
during the semester. More detailed information (that is, Materials Safety Data
Sheets) will be furnished by the deans upon written request.
Course syllabi are intended to provide students with basic information concerning the course. The syllabus can be viewed as a 'blueprint' for the course; changes in the syllabus can be made and students will be informed of any substantive changes concerning examinations, the grading or attendance policies and changes in project assignments.

Any course taken at Texas Wesleyan University and repeated for a grade must be repeated at Texas Wesleyan University. Any course taken at another university may be repeated at Texas Wesleyan, and the most recent grade on the course will be counted. When a course is repeated, the grade point average will be computed using the most recent grade achieved.

Syllabus is subject to change