

**Computer Science Department -- CSUDH**  
**CSC 453 – Data Management**  
**CSC 553 – Advanced DBMS**  
**ITC 453 – Database Management System**

<b>Instructor</b>	Jack Han	<b>E-Mail</b>	jhan@csudh.edu
<b>Classroom</b>	SCC800	<b>Class Meeting</b>	Wednesday: 7:00pm-9:45pm
<b>Office</b>	NSM A-133	<b>Office Hours</b>	Wednesday: 9:30am -1:30am
<b>Phone</b>	(310) 243-2624		or by Appointment

**CATALOG DESCRIPTION:**

The main object of this course is to provide a general overview of database management systems and database application systems. The topics include relational database query using structured query language (SQL), data modeling with entity-relationship (ER) model, database design using normalization, database implementation with different DBMS products such as SQL Server, Oracle, MySQL. The course is centered on the concepts, skills and techniques, and hands-on experiences of relational database design, management, implementation, and application.

**PRE-REQUISITE:** CSC311: Data Structures  
CSC321: Programming Languages  
MAT281: Discrete Mathematics

**TEXTBOOK:**

Database Processing: Fundamentals, Design, and Implementation, by D. M Kroenke and D. J. Auer, 12<sup>th</sup> ed., Prentice Hall, 2011. ISBN: 978-0-13-214537-4

**COURSE GOALS:**

This course aims to expose students the general concepts, techniques, and skills of database design, implementation, and application. Students are expected to best practice in data modeling using ER model, transferring ER model into database schema, relational model and normalization, designing database using data description language (DDL), managing database using data management language (DML), and querying database using SQL. With hands-on experiences, students will develop their professional executive techniques skills in database design and application.

**COURSE OUTCOMES:**

Upon completion of this course, students will:

1. familiarize with the general concepts of data management, database, relational database, data modeling, database query, database design, and database implementation;
2. master the skills of using structured query language (SQL) to query relational databases with various forms and enhancements;
3. understand the relational model and normalization, including various normal forms;
4. be able to use normalization to design relational databases;
5. be able to use entity-relationship (ER) model to model real-world data and transfer data models into database designs;

6. be able to construct database using data description language (DDL) and manage database using data management language (DML); and
7. know how to redesign database from existing database using reverse database engineering.

**REQUIREMENTS:**

**CSC453/ITC453 and CSC553:** There will be FIVE (5) intensive writing assignments, ONE (1) midterm test, and ONE (1) final test. The writing assignments will be chosen from the exercises of text chapters on the understandings and summarizations of chapters. The midterm and final tests will be comprehensive.

There will be ONE (1) group project consisting of THREE (3) parts for students to practice the professional skills that are discussed in the course. Each group will have either 3 or 4 students. At the end of the semester, each group will have ONE (1) project presentation.

**CSC553 only:** ONE (1) research project is required, which must be reported to the instructor and probably presented in the class at the end of the semester. Each graduate student must consult with the instructor to determine your research topic and get your topic approved. The requirements of the research report and presentation will be announced.

**GRADING BREAKDOWN:**

CSC453/ITC453:

Assignments: 25%, 5% each  
 Group Project: 20%, 5% each part, 5% presentation  
 Midterm Test: 25%  
 Final Test: 30%

CSC553:

CSC453: 80%  
 Research Project: 20%

**GRADING SCALE:**

[94,100] = A [90-94) = A- [85-90) = B+ [80-85) = B [75-80) = B- [70-75) = C+  
 [65-70) = C [60-65) = C- [55-60) = D+ [50-55) = D below 50 = F

**COURSE OUTLINE (Tentatively and subject to change)**

Week	Topic and Chapter	Assignments	Group Project	Graduates Research
1	1. Introduction			
2-3	2. SQL	A1		
3-4	3. Relational Model and Normalization			
5	4. DB Design Using Normalization	A2	Group Project – Part 1	
6-7	5. Data Modeling with ER Model			
8	Midterm Test		Group Project – Part 2	Topic Selection

<b>9-10</b>	6. Transforming Data Model into DB Designs	A3		
<b>10-11</b>	7. SQL for DB Construction and Application Processing	A4	Group Project -- Part 3	Reading List
<b>12</b>	8. Database Redesign			
<b>13</b>	9. Managing Multiuser DBs	A5		Abstract
<b>14</b>	Group Project Demonstration			
<b>15</b>	Graduates Presentations			Presentation
<b>16</b>	Final Test			Final Report

**GENERAL POLICIES:**

***ACADEMIC HONOR CODE***

*Programming assignments must be done individually. Failure to do so will result in a violation of the CSUDH Academic Honor Code. The following cases will be considered as violations: identical code, and extremely similar code. Violations will be reported to the Office of Vice President of Academic Affairs.*

***STUDENT ACADEMIC APPEALS PROCESS***

*Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, error, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.*

***ADA STATEMENT***

*Students with disabilities, who believe they may need an academic adjustment in this class, are encouraged to contact me as soon as possible to better ensure receipt of timely adjustments.*

***DEFINITION OF CHEATING AND PLAGIARISM***

*CSUDH is dedicated to a high standard of academic integrity among its faculty and students. In becoming part of the California State University academic community, students are responsible for honesty and independent effort. Disciplinary action will be taken against any student who alone or with others engages in any act of academic fraud or deceit. (Read University Regulations in University Catalog)*