



### CS392 Database System

<b>Instructor Information</b>	<p>Shuxi Wang          Home Institution: University of International Business and Economics          Email: wangshuxi@uibe.edu.cn          Office Hours: Determined by Instructor</p>		
<b>Term</b>	December 13, 2021 - January 7, 2022	<b>Credits</b>	4 units
<b>Class Hours</b>	Monday through Friday, 120 mins per teaching day		
<b>Discussion Sessions</b>	2.5 hours each week, conducted by teaching assistant(s)		
<b>Total Contact Hours</b>	66 contact hours (1 contact hour = 45 mins, 3000 mins in total)		
<b>Required Texts (with ISBN)</b>	Textbook: Coronel, C., & Morris, Steven (2019). Database systems: Design, implementation, and management. (13th ed.). ISBN: 9781337627900		
<b>Prerequisite</b>	Students are expected to have completed one of introductory computer programming courses.		



## Course Overview

This is an introductory course to relational database design, implementation, usage, and administration. Topics covered include relational database model, entity relationship modeling, normalization, SQL, database design, database connectivity and Internet, data warehouse, transaction management and concurrency control.

## Learning Outcomes

On completion the students should be able to:

1. Demonstrate a fundamental understanding of relational databases;
2. Demonstrate the capability of designing relational databases via ERD and normalization;
3. Demonstrate the ability to create and query databases with SQL;
4. Demonstrate a knowledge of transaction management, concurrency control, and crash recovery;
5. Be aware of current and emerging trends in database management and processing;
6. Access databases from other programming languages.



**Grading Policy**

Quizzes	30%
Assignments	10%
Midterm	20%
Final exam	40%

**Grading Scale**

Number grade	Letter grade	GPA
90-100	A	4.0
85-89	A-	3.7
80-84	B+	3.3
75-79	B	3.0
70-74	B-	2.7
67-69	C+	2.3
65-66	C	2.0
62-64	C-	1.7
60-61	D	1.0
≤59	F (Failure)	0



**Class Schedule**

<b>Date</b>	<b>Lecture</b>	<b>Readings</b>
Day 1	Database and the Relational Model	Chapters 1 & 2
Day 2	Relational Model	Chapter 3
Day 3	E/R Diagram	Chapter 4
Day 4	E/R Diagram and Transformation	Chapter 4
Day 5	E/R Diagram Transformation	Chapter 4
Day 6	Normalization	Chapter 6
Day 7	Database Design Life Cycle	Chapter 9
Day 8	SQL I	Chapter 7
Day 9	SQL II	Chapter 7
Day 10	Midterm	
Day 11	SQL III	Chapter 7
Day 12	SQL IV	Chapter 8
Day 13	SQL V	Chapter 8
Day 14	Database Connectivity and Web Technologies	Chapter 15
Day 15	Transaction Management	Chapter 10
Day 16	Concurrency Control	Chapter 10
Day 17	Locking Methods, Deadlocks	Chapter 10
Day 18	Time Stamping Methods, Crash Recovery	Chapter 10
Day 19	Object-Oriented Databases	Appendix G
Day 20	Final exam	

\* Fee-paying (non-exchange) program held by School of Continuing Education, SJTU.

\* 此课程由上海交通大学继续教育学院开设，所提供课程不包括在上海交通大学与海外高校校级合作的学分互认范畴之内。