上海交通大學
SHANGHAI JIAO TONG UNIVERSITY

Shanghai Jiao Tong University

CS392 Database System

Term:	December 16, 2019- January 7, 2020	**Credits:**	4 units
Classroom:	TBD	**Teaching Assistant(s):**	TBD
Class Hours:	Monday through Friday, 160 mins per teaching day		
Discussion Sessions:	2 hours each week, conducted by teaching assistant(s)		
Total Contact Hours:	64 contact hours (1 contact hour = 45 mins, 2880 mins in total)		
Required Texts (with ISBN):	Textbook1: Coronel, C., & Morris, Steven (2017). Database systems: Design, implementation, and management. (12th ed.). ISBN: 9781305627482 Textbook2: Coronel, C., & Morris, Steven (2019). Database systems: Design, implementation, and management (13th ed.). ISBN9781337627900		
Prerequisite:	Some introductory programming units are required		

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Course Overview

In this unit an introduction to the concepts of database design and usage and the related issues of data management are provided. Students will develop skills in planning, designing, and implementing a data model using an enterprise-scale relational database system (Oracle). During the process, methods and techniques will also be presented to populate, retrieve, update and implement integrity features on data in the implemented database system.

Learning Outcomes

1. describe the underlying theoretical basis of the relational database model and apply the theories into practice;
2. explain the motivations behind the development of database management systems;
3. develop a database based on a sound database design;
4. develop a sound database design;
5. use data modelling and database development tools effectively;
6. construct queries that meet user requirements;
7. develop a simple web-based interface for a database.

Grading Policy

Quiz	5%
Assignment 1 Part A（Initial Conceptual Model）	5%
Assignment 1 Part B（Database Design）	20%
Assignment 2（SQL）	20%
Paper	50%

Grading Scale is as follows:

Number grade	**Letter grade**	**GPA**
90-100	A	4
85-89	A-	3.7
80-84	B+	3.3
75-79	B	3
70-74	B-	2.7
67-69	C+	2.3
65-66	C	2
62-64	C-	1.7
60-61	D	1
≤59	F (Failure)	0

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Class Schedule

Date	Content	Readings
Day 1	PART I: The Relational Model Introduction to Database	Textbook1 Chapter1&2 + Textbook2 Chapter1&2
Day 2	Relational Model	Textbook1 Chapter 3 + Textbook2 Chapter 3
Day 3	PART II: Database Design Conceptual model - E/R Diagram	Textbook1 Chapter 4 + Textbook2 Chapter 4
Day 4	Logical model - E/R Transformation	Textbook1 Chapter 4 + Textbook2 Chapter 4
Day 5	Normalisation	Textbook1 Chapter 6 + Textbook2 Chapter 6 +
Day 6	Database Implementation	Textbook1 Chapter 7+ Textbook2 Chapter 7
Day 7	PART III: The SQL Database Language SQL I	Textbook1 Chapter 7 + Textbook2 Chapter 7
Day 8	Update, Delete and Transaction Management	Textbook1 Chapter 10 + Textbook2 Chapter 10
Day 9	Update, Delete and Transaction Management	Textbook1 Chapter 10 + Textbook2 Chapter 10
Day 10	SQL II	Textbook1 Chapter8&11 + Textbook2 Chapter 11
Day 11	SQL III	Textbook1 Chapter8&11+ Textbook2 Chapter11
Day 12	PART IV: Web Database Implementation Database Connectivity and Web Technologies - Querying Data	Textbook1 Chapter 15 + Textbook2 Chapter 15
Day 13	PART IV: Web Database Implementation Database Connectivity and Web Technologies - Querying Data	Textbook1 Chapter 15 + Textbook2 Chapter 15
Day 14	Web Technologies – Manipulating data	Textbook1 Chapter 15 + Textbook2 Chapter 15
Day 15	Examination period	