ISOM3260 Database Design and Administration (Fall 2020)

Instructors

	L1	LA1
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	(Email subject: **[ISOM3260]...**)	
Telephone	2358-8142	2358-
Office hours	By appointment	
Textbook	Modern Database Management (13th Edition)	
Course web	https://canvas.ust.hk/	

Please visit Canvas regularly for the updates in the course.

Time and Venue

L1	Wednesday: 1:00pm to 2:50pm	TBA
LA1	Thursday: 1:00pm to 2:50pm	TBA

Overview

This course covers the basic concepts and principles of database design and implementation. Database management systems are the foundation of any information systems. Database systems must effectively store and manage data with integrity and security. This course emphasizes both theories and hands-on experience. The course work includes a group project in which students design and implement a database system to solve a practical business problem. Oracle will be used as the main software package for students to gain hands-on experience.

Course Objectives

In this course, students will learn the fundamentals of database design and development. By attending this course, students will learn how they can develop a database in different stages. Specifically,

- They will learn how to do conceptual modeling.
- They will learn how to do logical database design.
- They will learn how to do physical database design.
- They will learn how to store and manipulate data in relational databases.
- They will learn how to generate management reports from relational databases.

Advanced topics (e.g., data and database administration, etc.) will be covered.

Intended Learning Outcomes

- Describe the database environment, benefits and risks, and development process.
- Analyze how data should be represented and stored in the business information systems.
- Design the data structure in conceptual and logical levels.
- Manipulate the data with structured query language (SQL) and advanced SQL.
- Apply programming skills and construct a realistic business information system.

Evaluations

Individual	
Lab Submissions	20%
Assignments	40%
Group	
Progress Demonstration	10%
Project Demonstration and Final Report	30%

Note. The evaluation components and class schedule are subject to change under special circumstances. Possible changes include, but are not limited to, replacing evaluation components with alternatives, and changing the weighting of evaluation components.

Class Schedule (Tentative)

Week	L1 (Wednesday)	LA1 (Thursday)
1	Sep 9: Database Fundamentals	Sep 10: Introduction to ISOM3260 Labs and Group Project
2	Sep 16: ER Diagram	Sep 17: Drawing ER Model using Data Modeler
3	Sep 23: ER Diagram (cont.); Enhanced ER Diagram	Sep 24: Creating System Prototype using Pencil
4	Sep 30: SQL I	Oct 1: Holiday / Project Work
5	Oct 7: SQL II	Oct 8: Running SQL statements using SQL Developer
6	Oct 14,15: Progress Demonstration	
7	Oct 21: SQL III	Oct 22: Connecting to Oracle Database by Application Programming Languages
8	Oct 28: Logical Database Design	Oct 29: Building Database Applications (1)
9	Nov 4: Logical Database Design (cont.)	Nov 5: Building Database Applications (2)
10	Nov 11: Physical Database Design	Nov 12: Manager Dashboard
11	Nov 18: Database Administration	Nov 19: Project Work
12	Nov 25: Data Warehousing	Nov 26: Project Dry-run
13	Dec 2, 3: Project Demonstration	

Note. Schedule is tentative and subject to change. Please check the course website regularly for the updated schedule.

Grade appeal

Any appeal to score/grade has to be filed through email to your instructors. No appeal of a particular score/grade will be considered 72 hours after its score/grade release day.

Academic honesty

Written work that you hand in is assumed to be original unless your source material is documented appropriately. Using the ideas or words of another person, even a peer, or a web site, as if it were your own, is plagiarism. Cheating and plagiarism are serious academic offenses. Students should read the section on cheating and plagiarism in the HKUST catalog.

Furthermore, students should be aware that faculty members have a range of academic actions available to them in cases of cheating and plagiarism, including failing a student on that particular work, to failing a student in a course, to referring the case to school/university committees for consideration of dismissal from the university program.

For more information, please refer to: http://ugadmin.ust.hk/integrity/student-1.html