THE CHINESE UNIVERSITY OF HONG KONG
Department of Systems Engineering & Engineering Management
2021/2022
2nd Term

Course Code & Title: SEEM3550A Fundamentals of Information Systems

Instructors and Teaching Assistants

Instructor	
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Course Description & Content

The course covers the following topics:

Basic elements of information systems, their concepts and interrelations. Database systems: database models, relational database, SQL, storage and file structure, indexing, hashing, and query processing.

Learning Outcomes

After taking the course, students should be able to:

1. perform conceptual database design using Entity Relationship Diagram (ERD).
2. perform logical database design by transforming a ERD to a relational database table.
3. learn how a relational database table are maintained on secondary disk storage.

Learning Activities

Activities	Number of Hours		Nature of Activities
Lecture	In class	39	M;
	Outside class	0	M; O
Interactive Tutorial	In class	6	M;
	Outside class	0	M; O
Laboratory Work	In class	0	M; O
	Outside class	0	M; O
Group Discussion	In class	0	M; O
	Outside class	0	M; O
Field Trip	In class	0	M; O
	Outside class	0	M; O
Project	In class	0	M; O
	Outside class	0	M; O
Assignment	In class	0	M; O
	Outside class	15	M;
Reading	In class	0	M; O
	Outside class	20	O
Other	In class	0	M; O
	Outside class	0	M; O

M: Mandatory activity in the course
O: Optional activity

Learning Resources

Textbook:
Database System Concepts (sixth edition)
by *Avi Silberschatz, Henry F. Korth, and S. Sudarshan*, McGraw-Hill, 2010

Lecture notes:
URL: CUHK Blackboard System

Assessment Scheme

Task nature	Weight
Written Assignments	30%
Midterm Exam	20%
Final Exam	50%

Course Schedule

Class/Week	Date	Topic	Requirements
W1	10-16/1	Introduction/Relational Model	Read Chapters 1-2
W2	17-23/1	SQL	Read Chapter 3
W3	24-30/1	SQL	Read Chapters 3-4
W4	7-13/2	Relational Algebra	Read Chapter 6
W5	14-20/2	Storage and File Structure	Read Chapter 10
W6	21-27/2	Index and Hashing	Read Chapter 11
W7	28/2-2/3	Index and Hashing	Read Chapter 11
W8	7-13/3	Midterm Exam Query Processing	Read Chapter 12
W9	14-20/3	Query Processing	Read Chapter 12
W10	21-27/3	Query Processing	Read Chapter 12
W11	28-30/3	Query Optimization	Read Chapter 13
W12	11-17/4	Query Optimization	Read Chapter 13
W13	20/4	Entity-Relationship Model	Read Chapter 7

Feedback for evaluation

Course evaluation
Class representative meeting with department teaching and learning committee
Student contact through emails and office hours

Academic Honesty

http://www.cuhk.edu.hk/policy/academichonesty/