

School of Information Technology International Business College

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Introduction to Database Principles

Subject Coordinator and Lecturer: Professor Minh Hung Le

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Aim of Unit:

This subject aims to provide the student with an understanding of the importance of database technology in today's society and how they can use this technology to manage their own data requirements. The subject will include a detailed discussion of database design and the relational database model.

Unit Outline:

- Explain the features of a database and a database management system.
- Describe the relational database model, its features and their rationale.
- Formulate queries in SQL.
- Comprehend the database development process.
- Develop a database using the entity-relationship model.
- Exploit the techniques of normalisation and describe their basis.
- Implement a database design as a relational database using MS Access.

Mode of Delivery:

Two hours lecture per week.

One hour tutorial per week.

Unit Assessment:

Assignments	20 %
Mid-Semester Test	20 %
Final Examination	60 %

Assessment Requirements:

Students must receive 50% or more for each part of Unit Assessment in order to pass the subject.

Student Workload:

Students will have 3 hours per week face-to-face learning during semester.

Students are expected to work at least 4 hours per week out of class.

Text Book:

Peter Rob, Carlos Coronel, "Database Systems: Design, Implementation and Management", 6th Edition, Thomson Learning, 2004

Subject Schedule

Weeks	Lecture/Tutorial Topics	Assignments	Reading from Text Book
1	Database Systems and Data Models	Assignment #1	Chapters 1, 2.1-2.4
2	Set Theory, Relational Data Model, Integrity Rules	Assignment #2	Chapters 2.5, 3.1-3.3
3	Relational Algebra, Data Dictionaries, Indexes	Assignment #3	Chapter 3.4-3.8
4	Entity-Relationship Model	Assignment #4	Chapter 4.1
5	Developing an ERD, Design Challenges	Assignment #5	Chapter 4.2-4.4
6	Normalization	Assignment #6	Chapter 5
7	Mid-Semester Test SQL (DDL, DML), Simple Select Queries	Assignment #7	Chapter 6.1-6.5
8	Complex Select Queries, Views, Joins	Assignment #8	Chapter 6.6-6.9
9	Set Operators, Joins, Procedural SQL	Assignment #9	Chapter 7.1-7.3, 7.6,7.7
10	Systems Development Life Cycle, Database Design Life Cycle	Assignment #10	Chapter 8
11	Case Study	Assignment #11	Appendices D and E
12	Database Administration, Ethics	Assignment #12	Chapter 15.1-15.7
13	Revision		
14	Final Examination		