Course Outline
Mahidol University
Program……Accounting……

[/] 1st   [   ] 2nd semester , academic year ………2020……..

Course Code…KAAC 486
Course name…Database Management   **Credit** 3
Prerequisite   **Type of Course**…Major **for program**
Evaluation
[/] Grade (A , B+ , B , C+ , C , D+, D, F)
[   ] Grade (S or U)

Course Description

This course is on the design and implementation of database management systems. The course emphasizes the understanding of the fundamentals of relational systems including data models, database architectures, and database manipulations. Topics include data models (relational, document, key/value), storage models (n-ary, decomposition), query languages (SQL, stored procedures), storage architectures, indexing (order preserving trees, hash tables), transaction processing (ACID, concurrency control), recovery (logging, checkpoints), query processing (joins, sorting, aggregation, optimization), and parallel architectures (multi-core, distributed). Case studies on open-source database systems will be used to illustrate these techniques and trade-offs. The course also provides an understanding of new developments and trends such as Internet database environment and data warehousing. The course uses a problem-based approach to learning?

Course Objectives

The primary objectives of the course are to:

- Understand terms related to database design and management
- Understand the objectives of data and information management
- Understand the database development process
- Understand the relational model and relational database management system
- Assess data and information requirements
- Construct conceptual data models
- Develop logical data models
- Evaluate the normality of a logical data model, and correct any anomalies
- Implement relational databases using a RDBMS
- Use SQL to interact with database management systems.
- Understand database performance issues
- Understand the basics of data management and administration
- Understand the basics of data warehousing
- Work as a valuable member of a database design and implementation team

References

Abraham Silberschatz, Henry F. Korth, S. Sudarshan. *Database System Concepts*, 6th Edition, McGraw-Hill, ISBN: 978-0-07-352332-3

Slide Presentation

Course Content

No.	Topic
1	Introduction to database management systems
2	Intro to Relational Model
3	Intro to SQL
4	Advanced SQL
5	Entity Relationship Model
6	Relational Database Design
7	Relational Database Design (Cont.)
8	Application Design & Data Analytics
9	Storage Management
10	Querying
11	Transaction Management and Concurrency Control
12	Database-System Architectures
13	Distributed Database
14	Data Warehousing and Mining
15	Specialty Database Course Wrap-Up

Assessment

Assignment	20%
Quiz	10%
Midterm	30%
Final Exam	40%
Total	100%