DATABASE SYSTEM DESIGN, MANAGEMENT AND ADMINISTRATION - MSIS4013

Syllabus

1. GENERAL INFORMATION:

Instructor name: Email:

Credit: 3 (3 lecture, 1 lab).

Prerequisite: CS 5423

2. COURSE INFORMATION:

Course description:

Theoretical aspects and business applications of data models and databases. Data Security, maintaining database integrity, and database administration in a shared, networked or distributed environment. Related database concepts including object-oriented databases and web database development. Analysis, design, and implementation of a database system using advanced DBMS tools and high-level languages to retrieve and manipulate data. Required for MIS major.

3. BOOK AND MATERIALS:

- Required textbook:

- Data Management: Databases and Organizations (6th Edition) by Richard T. Watson, Prospect Press, 2015.

- Other materials:

- Database Systems: Design, Implementation and Management, 4th Edition by Peter Rob and Carlos Coronel, Thomson Learning, 2000.

- Database Systems: A practical approach to design, implementation, and management, 2nd Edition by Thomas Connolly, Carolyn Begg and Anne Strachan, Addison Wesley, 1999.

- Database Application Development and design by Michael V. Mannino, McGraw Hill, 2001.

4. GRADING PROCEDURES:

Computer-based testing: 30%

Midterm Examinations: 20%

Final Examination: 50%

5. COURSE OUTLINE:

Week	Topic
1	**Advanced SQL :** Data Definition, Queries, Update Statements, Creating View, Additional Constraints, Indexes, Embedded SQL
2, 3	**Distributed Database :** Network Database Structures, Constraints in Network Model, Data Definition in the Network Model, ER-to-Network Mapping, Programming a Network Database, IDMS.
4, 5, 6	**Object Oriented Database :** UML, Object Identity, Object Structure and type construct, Encapsulation of Operations, Methods and persistence, type and class hierarchies, Inheritance.
7	MIDTERM EXAM
8, 9	**Database and the Internet: The Web and Data Management** Internet technologies and databases, Web-to-database middleware, Web browser to DBMS server connectivity, ODBC, Internet database systems (data security, transaction management), XML.
10	**Database Administration: Managing Organizational Memory** Data integrity, back up and recovery, Database Adminstrator (DBA) role and techniques, database administration strategy, organization memory.
	FINAL EXAM

6. COURSE REQUIREMENTS:

- Assignments: Exercises are in corresponding sections of the required book.
- Projects or Team Class Projects: Projects are given by the instructor.
- Class attendance/participation: Evaluated by checking in the Attendance Book
- Final Examination: Students are directly tested and automatically marked on computers.

7. ACADEMIC INTEGRITY POLICIES:

- Student may not be absence in 4 sessions. If so, he/she will be prohibitted from test or exam

- Student may not use Vietnamese languague in their class, or will be reduced 2% final marks

- Be punctual to come and leave the class.

- Maximum camncellation time per semester is 6 hours per class.

8. COMMENTS AND NOTES:

- Preparation for Class: It is expected that the students read related chapter in textbook and lecture noted before each class. This will help to capture the topics presented and discussed during class hours.

- Use of Class Time: Class time will be used mainly for lectures and discussions. A small part of class hours is used for testing. House works will be discussed on individual basis.

- Class Attendance: Due to the broad range of topics discussed throughout the course and their inter-relationship, it is requested that the students should attend the class regularly.

- Assignment Requirement: Assignments of each session must be submited by email before the next session begins.

Instructor's Signature