COURSE SYLLABUS

CTT102: INTRODUCTION TO DATABASE SYSTEMS

Term: **03/2017-2018**

INSTRUCTOR INFORMATION

Instructor: PHẠM THỊ BẠCH HUỆ

Office location: I43

Email: ptbhue@fit.hcmus.edu.vn

Office hours: Wed, 9:30 ~ 16:00

COURSE INFORMATION

Credits: 4

Pre-requisites: N/A

Classroom: I44

Class: 16CLC2

COURSE OBJECTIVES

On successful completion of this course, students will be able to:

- Use English reading comprehension skills to read textbooks and other documents related to database systems

- Practice critical and creative thinking skills to exploit a database

- Interpret the role of databases in information systems of organizations

- Explain basic concepts of the database and database systems

- Apply the Entity-Relationship Model and Relational Data Model for data modeling

- Use query languages to manipulate the database

- Describe integrity constraints of the database

- Interpret the quality of a database schema
- Choose the best query optimization strategy

COURSE DESCRIPTION

The course introduces the overview of the needs for databases in enterprises, as well as other organizations. The course will provide the background knowledge of database systems on where the relational model is emphasized. Moreover, the techniques, tools and skills are provided for students to design, manipulate, and exploit the database via a relational database management system. The course also mentions future trends in database systems research.

COURSE MATERIALS

Textbooks

[1].***Database Systems: The Complete Book***, Hector Garcia-Molina, Jeffrey D. Ullman, Jennifer Widom, Prentice Hall, 2000.

[2].***Fundamentals of Database Systems***, Ramez Elmasri, Shamkant B. Navathe, Addison Wesley, 2004.

Reference books

[1].***Database system concepts***, Abraham Silberschatz, Henry F. Korth, S. Sudarshan, McGraw-Hill, 2002.

Softwares

[1]. MS-SQL Server (or PostgreSQL)

COURSE TOPICS

- Overview of database system
- Entity relationship model (ERD)
- Relational data model
- Query languages (relational algebra, relational calculus and SQL)
- Integrity constraints
- Functional dependency and normal forms
- Other issues

COURSE REQUIREMENTS

Assignments   During the term, periodic assignments will be assigned and they can be done in class or at home. Student should submit them on their due date. Late assignments will be not accepted.

Examinations   Each student will be responsible for completing the mid-term and final examinations. No makeup examinations will be given.

Quizzes and Mini-Tests   Brief ten (10) or more minute multiple-choice quizzes or tests will be given at the beginning of a class on any topics in any lectures, or any reading material assigned up to the time that the quiz is administered.

COURSE GRADING

Course item	Percent of Final Grade
Assignments	20%
Lab	40%
Final examination	40%

PROFESSIONALISM AND ETHICS

Mobile phones, etc. must be silenced during all classroom lectures. Those not heeding this rule will be asked to leave the classroom immediately so as to not disrupt the learning environment.

Plagiarism and cheating - presenting another's ideas, arguments, words or images as your own, using unauthorized material, or giving or accepting unauthorized help on assignments or tests - contradict the educational value of the program. Therefore, plagiarism and cheating of any kind on an examination, quiz, or assignment will result at least in an "0" (zero) for that assignment, and may, depending on the severity of the case, lead to an "0" for the entire course, and may be subject to appropriate referral to the Management Board of APCS for further action.

POLICIES

Class Attendance and Participation

- Regular class attendance is strongly advised and is necessary for students to fully grasp many of the course concepts.

- Please be on time to class.
- If you miss a class session, it will be your responsibility to find out the materials that were covered.
- Students in attendance are expected to be active participants in the course. This participation includes: contributing to class discussions, providing insight into the class discussion topics, raising questions, and relating class material to personal experiences and other course topics.

Computer Usage

Moodle and e-mail will be used to communicate with students and disseminate materials and assignments throughout the course. So, students should check Moodle and their e-mail at least once per day.

When sending e-mail to the instructor, please begin the "Subject" of the message with the following:[ABCD]*<space>*

COURSE SCHEDULE

(Includes course topics, relevant readings, homework assignments, project tasks, and examination)

Week	Topic	Relevant reading	Assignment
1	Overview	Chapter 1 [1]	HW 01
2	Entity relationship model	Chapter 7 [2]	HW 02
3	Relational data model	Chapter 2 [1]	HW 03
4	Query languages	Chapter 2, 5, 6, 8 [1] Chapter 6 [2]	
5	Query languages (cont.)		
6	Query languages (cont.)		HW 04
7	Integrity constraint	Chapter 7 [1]	HW 05
8	Functional dependency and Normal forms	Chapter 3 [1]	
9	Functional dependency and Normal forms (cont.)	Chapter 3 [1]	HW 06
10	Exercises		
11	Review		