Department of Software

College of Engineering

Salahaddin University-Erbil

Subject: Database Design

Course Book –

Bologna process(course of Database Design)

Lecturer's name Hanan Kamal

Course Book

1. Course name	**Database Principles**
2. Lecturer in charge	**Hanan Kamal**
3. Department/ College	**Software and Informatics /Engineering**
4. Contact	**e-mail: hanan.abdulkarim@su.edu.krd**
5. Time (in hours) per week	**Theory: 2 h/w** **Practical: 2 h/w**
6. Office hours	**9:00-12:00 for Sunday and Tuesday**
7. Course code	
8. Teacher's academic profile	**I am a lecturer and hold BSc. And MSc. degree in Software Engineering. Interested in optimization, programming methodology, algorithm design, software engineering and robotics.**
9. Keywords	**DB, DBMS, SQL**

10. Course overview:

The Database Principles course very important topics of DB will be given to the students, the topics start from Introduction to the DB till DB representation. It will help the student to know the idea of the DB and how to represent the DB for Conceptual till physical schemas. The relational models for designing DB also will be explained, at the end of this course the students should be able to represent a DB and can implement some DB principles in practical.

11. Course objective:

The major objectives:

- understand the Methods of design DB
- Analyze and Design DB
- SQL Statement writing

learn theory of normal forms and functional dependency

12. Student's obligation

- The use of mobile phone during the class is prohibited.
- Only the students who are officially enrolled can attend the class, guests and children are not admitted.
- Daily participation and conducting assignments are required.

13. Forms of teaching

The lecture slides will be provided in the class and will be the core of the course, however additional reference pages will advise to read. Moreover to slides the white board and pen are used to explain some complex idea.

Note: There will be quizzes.

14. Assessment scheme

The course breaks down into the lectures, and practical sessions. There are exams to assess each student; midterm exam, class activity, and the final exam. The course had a theoretical exam of 20, and practical exam of 15, and 15 marks for activities and home works or quiz during course. The total marks will be as follows:

Theoretical exam (midterm) : 15%

Practical exam (2 practical exam): 10%

Activities, assignment and Quiz : 25%

Average Marks is: 50%

Final Exam: 50 % :

- Theory 30%
- Practical 20%

15. Student learning outcome:

At the of this course students should learn:

- Knowing DB design methods
- Analyse and create DB
- Understand the created design, modify it
- Learn SQL statement.
- Write queries using SQL.

16. Course Reading List and References:

- Database processing fundamentals, design and implementation, David m. Kroenke and David J.Auer, Western Washington University 2012.
- Database systems, Thomas connolly and Carolyn beg, 4th edition, USA, 2005.

- Fundamentals of Database Systems, Ramez Elmasri and Shamkant B. Navathe, 6th edition, NY, 2010.

17. The Topics:	**Lecturer's name**
Week 1: methodology Week 2: methodology (cont.) Week 3: SQL Create Week 4: SQL select Week 5: SQL grouping Week 6: SQL insert Week 7: SQL update and delete Week 8 : SQL join and types Week 9: SQL complex queries and view Week 10, 11, 12: Union , intersection , difference,.. Week 13: midterm exam Week 14: Some SQL implementation in example Week 15: Design small DB and write queries	Hanan Kamal (2 hrs)
18. Practical Topics (If there is any)	
Week 1: Introduction to XAMPP Week 2: simple applications in XAMPP Week 3: SQL Create Week 4: SQL select Week 5: SQL grouping Week 6: SQL insert Week 7: SQL update and delete Week 8 : SQL join and types Week 9: SQL complex queries and view Week 10, 11, 12: Union , intersection , difference,.. Week 13: midterm exam Week 14: Some SQL implementation in example Week 15: Assignment	Hanan Kamal (2 hrs)
19. Examinations:	

Q/Consider the following MAILORDER relational schema describing the data for a mail order company.
(30 marks)

PARTS(Pno, Pname, Qoh, Price, Olevel)
CUSTOMERS(Cno, Cname, Street, Zip, Phone)
EMPLOYEES(Eno, Ename, Zip, Bdate)
ZIP_CODES(Zip, City)
ORDERS(Ono, Cno, Eno, Received, Shipped)
ODETAILS(Ono, Pno, Quantity)

Qoh stands for (quantity on hand): the other attribute names are self-explanatory. Specify the following queries on the MAILORDER database schema.

1. [3 marks] Write SQL to create table employees, specify appropriate data types for attributes.
2. [3 marks] Write SQL to insert a new parts < 1,'laptop',25, 330$,3 > and < 2,'printer',12,50$,12 >
3. [3 marks] Write SQL to change the customers' street to Zanko for those name start with 'A'.
4. [3 marks] Write SQL to delete the record for the customers whose name is 'Hawar' and zip code is 4545.
5. [3 marks] Write SQL to add the city column after zip column for the customers table.
6. [3 marks] Write SQL to retrieve the part name and customer name , which their received order is '2018-1-1'.

20. Extra notes:

Note : Bologna system is 14 weeks not 15 week course.

21. Peer review