

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 Monday 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:	
<p>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.</p>	
11. Course objective:	
<p>The major objectives:</p> <ul style="list-style-type: none"> ▶ Understand the fundamentals of database technology ▶ Learn the data models to manipulate with the DB ▶ Understand modeling concepts of the Entity-Relationship (ER) model ▶ learn theory of normal forms and functional dependency 	
12. Student's obligation	
<ul style="list-style-type: none"> ➤ Attendance is required according to the Subject rules. ➤ 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): 20%

(If student fail with low marks (s)he will not enter to the final)

Practical exam (or assignment): 10%

Activities, assignment and Quiz: 20%

Average Marks is: 50%

Final Exam: 50 %:

- Theory 30%
- Practical 20%

15. Student learning outcome:

At the of this course students should learn:

- Know principles of DB
- Understand Architecture of DB.
- Know terminology used in DB.
- DB applications.
- Know Functions of the DBMS.
- How to collect information for DB.
- Create Entity relationship diagram for DB.
- Write Relational Algebra for queries.
- Normalize their information depending techniques and create their DB tables.
- Find tables depend of functional dependency and then normalization.

16. Course Reading List and References:

<ul style="list-style-type: none"> • 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. • DATABASE PROCESSING FUNDAMENTALS, DESIGN, AND IMPLEMENTATION, David M. Kroenke , David J. Auer, Scott L. Vandenberg, Robert C. Yoder , 5th edition. 	
17. The Topics:	Lecturer's name
<p>Week 1: Introduction to DB, DBMS</p> <p>Week 2: Database Environment</p> <p>Week 3: The Relational Model</p> <p>Week 4: Relational Algebra</p> <p>Week 5: Relational Algebra (cont.)</p> <p>Week 6: Relational Algebra (cont.)</p> <p>Week 7: Entity-relationship modelling</p> <p>Week 8 : Entity-relationship modelling(cont.)</p> <p>Week 10, 11, 12: Normalization and functional dependency</p> <p>Week 13: midterm exam</p> <p>Week 14: Assignment</p>	<p>Hanan Kamal (2hrs)</p>
18. Practical Topics (If there is any)	
<p>Week 1: Introduction to DB and access</p> <p>Week 2: Create Table</p> <p>Week 3: Attribute types and properties</p> <p>Week 4: Attribute types and properties(cont.)</p> <p>Week 5: relationships and referential integrity</p> <p>Week 6: Queries (select)</p> <p>Week 7: Queries (update)</p> <p>Week 8 : Queries (delete)</p> <p>Week 9: Queries (append)</p> <p>Week 10, 11, 12: Forms</p> <p>Week 13: Connections</p> <p>Week 14: report</p> <p>Week 15: Macro</p>	<p>Hanan Kamal (2 hrs)</p>

