KINGDOM OF SAUDI ARABIA
IMAM MOHAMMAD IBN SAUD ISLAMIC UNIVERSITY
COLLEGE OF COMPUTER SCIENCE AND INFORMATION
INFORMATION SYSTEMS DEPARTMENT
BACHELOR IN INFORMATION SYSTEMS

لامملكةالعربيةلاسعودية
معة الإمام محمد بن سعود الإسلامية
ية علوم الحاسب والملعومات
المعلوماتظم المعلومات
مالوريوسظنم

SYLLABUS

IS 220: Introduction to Databases

PREREQUISITE	IS230 – CS252	CREDIT HOURS	3 (2+2)

Instructor:
Contact information and office hours
Office No: *4A-246*
Office Hours: *Sunday + Tuesday (11:00-12:00), Monday + Wednesday (07:30-08:20)*
E-mail: *haalrumaih@imamu.edu.sa*

COURSE DESCRIPTION

This course covers fundamental concepts of database systems. These concepts include database modeling and design, relational model, relational algebra, brief introduction SQL, entity relationship model, mapping to relational schema, normalization, as well as more recent developments such as NoSQL and big data.

COURSE LEARNING OUTCOMES (CLOs)		Aligned SOs
1	**Knowledge and Understanding**	
1.1	*Define the concept of databases, its purpose, advantages and concepts*	*1(I)*
2	**Skills :**	
2.1	*Write a query statement based on SQL standards.*	*2(I)*
2.2	*Design a correct ER diagram based on informal system description.*	*2(I)*
2.3	*Apply the mapping rules to transform the ERD into a relational schema.*	*2(I)*
2.4	*Apply the normalization rules to transform the ERD into a relational schema.*	*2(I)*
3	**Values:**	
3.1	*Function effectively on teams to accomplish a common goal.*	*5(P)*
3.2	*Present a topic in a compelling manner.*	*3(P)*

TEACHINGStrategies

ClassLectureswithpractical session

TEXT BOOK

Fundamentals of Database Systems, 7th Edition, Ramez Elmasri and Shamkant B Navathe, Pearson, 2016.
ISBN 13: 9781292097619
ISBN 10: 1292097612

REFERENCES

- *Database System Concepts, 7th Edition, Abraham Silberschatz Professor, Henry F. Korth and S. Sudarshan, The McGraw-Hill Companies 2019.*
  ISBN 13: 9780078022159
  ISBN 10: 0078022150
- *Modern Database Management, Global Edition, 13th edition Jeff Hoffer ; Ramesh Venkataraman ; Heikki Topi , Pearson, 2019, ISBN 13: 9781292263359*
  SBN 10: 1292263350

No	List of Topics	Contact Hours
1	*Introduction to Database Systems*	4
2	*Data Modelling Using the Entity-Relationship (ER) Model & UML Notations*	7
3	*The Enhanced Entity-Relationship (EER) Model*	4
4	*The Relational Data Model and Relational Database Constraints*	4
5	*Relational Database Design by ER- and EER-to-Relational Mapping*	7
6	*The SQL Database Language*	4
		0+2
8	*Relational Algebra*	0+2
9	*Basics of Functional Dependencies and Normalization for Relational Databases*	6
10	*NOSQL Databases and Big Data Storage Systems*	0+2
Total		**36+6(SL)**

Course Assessment Methods			
No	Assessment Method	Due Week	%Total Assessment
1	**Quiz**	*3*	10
2	**Assignment**	*8*	10
3	**Midterm**	*6*	20
4	**Project / Lab Exam**	*11*	20
5	**Final Exam**	*13*	40