	Hashemite University Prince Al-Hussein bin Abdullah II Faculty for Information Technology Department of Computer Information Systems	

Course Syllabus

Year: 2018-2019 **Semester: (1)**

Course No.	Course Title	Designation	Prerequisite	Co-requisite	Credit Hours Lectures /Lab
151002342	Advance Database Management Systems	Required	151002240	-	3 / 0

Instructor Name	E-mail	Office No.	Office ext.	Office Hours
Dr. Feras Hanandeh	feras@hu.edu.jo	IT242	5066	Sun,Tues,Thu(12-1) Sun,Tues,Thu(1-2)

Coordinator's Name:	Dr.Feras Hanandeh

Course Description	This course aims to provide students with advanced topics in database, the student will be able to understand the transactions and its properties, recoverable and serializable schedules, the two major concurrency control techniques which are 2PLP and Timestamp ordering, database recovery techniques, distributed DB and centralized DB, and data mining concepts The course project aims to provide students with advanced skills in java programming, and the using JDBC.

a) Textbook (s):
1. Fundamentals of Database Systems, - Elmasri R. and Navanthe S. B., 7th ed., 2017, Addison Wesley. (Text) https://www.amazon.com/Fundamentals-Database-Systems-Ramez-Elmasri/dp/0133970779/ref=dp_ob_title_bk
b) Addtional References:
1. Silberschatz, Korth and Sudarshan, “Database System Concepts”, edition, Mc Graw Hill, 2002.
2. Thomas Connolly et. al., “Database Systems, A Practical Approach to Design, Implementation and Management”, Addison Wesley, 1996.

3. Date C.J, "An Introduction to Database System", Addison- Wesley, 6th 1995

Course Learning Outcomes CLOs
1. Demonstrate a solid understanding of the Database transaction processing concepts, Characterizing Schedules based on Recoverability, and transaction support in SQL. (2)
2. Purpose of Concurrency Control, the use of two-Phase locking, Limitations of CCMs, Index Locking, and Lock Granularity. (2)
3. Understand Databases Recovery Techniques, Types of Failure, Transaction Log, Transaction Roll-back (Undo) and Roll-Forward, ARIES Recovery Scheme, and Recovery in Multi database System. (2,5)
4. Communicate effectively on the project through technical reports and oral presentations. (5)
Addressed Student Learning Outcomes (SLOs)
2 and 5

Topic	CLO number	Reference	No. of Weeks	Contact hours*
1. Introduction to Transaction Processing Concepts and Theory	1	Ch17	3	9
2. Databases Concurrency Control	1	Ch18	4	12
3. Databases Recovery Techniques	1	Ch19	4	12
4. Distributed Databases and Client-Server Architectures	1	Ch25	3	9
5. Projects Presentation & discussion	2,3		2	6
Total			15	45

Assessment method	Grade	Comments
First Exam	20%	Covers Chapters 17, and 18
Second Exam	20%	Covers Chapters 19
Project	20%	Assessment and presentation
Final Exam	40%	Covers all topics
Total	100%	