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

Course Syllabus

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

Course No.	Course Title	Designation	Prerequisite	Co-requisite	Credit Hours Lectures /Lab.
151002350	Data Warehousing Technology	Required	151002350	-	3 / 0

Instructor Name	E-mail	Office No.	Office ext.	Office Hours
Dr. Zaher Salah	zaher@hu.edu.jo	3	5060	Sun, Tue, Wed (1:00-2:00)

Coordinator's Name:	Dr. Zaher Salah

Course Description	This course is designed for third and fourth year undergraduate students. This course provides an introduction to data warehouse design. Topics covered: data modelling, database design and database access are reviewed. Data extraction, cleansing, transformation and loading, data cube computation, materialized view selection, OLAP query processing, star schema, fact tables and dimension tables will be examined. Multi-dimensional databases are emphasised. Issues in data warehouse planning; design, implementation, and administration are discussed in a seminar format. The role of data warehouse in supporting Decision Support Systems (DSS) is also reviewed.

a) Textbook(s):

1. William H. Inmon, Building the Datawarehouse, 4nd edition, 2005.
2. Kimball R., Ross M.: The Data Warehouse Toolkit. The Complete Guide to Dimensional Modeling, Wiley &Sons, 2013.

b) Additional References:

1. Rasmussen N., Goldy P.S., Soli P.O.: Financial Business Intelligence, Wiley &Sons, 2002.
2. Grothe M., Gentsch P.: Business Intelligence, Addison-Wesley, 2000. 5.
3. Oracle Business Warehouse User Guide. http://www.oracle.com/technology/obe/admin/owb_main.html.

Course Learning Outcomes CLOs
1. **Identify** and **recognize** the concepts of DSS, data warehousing the system development life cycle for the data warehouse. (b)
2. **Analyze** and **identify** all issues around the environment data warehouse. (b)
3. **Design** and **recognize** all methodologies and aspects of designing data warehouses. (c)
4. **Design** and **recognize** all aspects of the Multidimensional data models (star , snowflake and fact constellation) (c)
5. **Use** current techniques and tools for OLAP operations (dice, slice, roll up, drill down, pivot ...etc). (i)
6. **Design** and **evaluate** the appropriate data warehouse multidimensional model for any given scenario. (c)
7. **Function** on team to accomplish a presentation about recent topics in data science. (d)
Addressed Student Learning Outcomes (SLOs)
b, c, d and i

Topics	CLO number	Reference	No. of Weeks	Contact hours*
1. Evolution of Decision Support Systems.	1	Ch. 1-H.Inmon	1	3
2. Datawarehouse Environments	2	Ch.2-H.Inmon	2	6
3. Datawarehouse Design	3	Ch.3-H.Inmon	2	6
4. Concept of multidimensional modeling, star schema, snowflake schema and fact constellation	4	Summary from learning references	2	6
5. Kimball Dimensional Modeling Techniques	6+4	Ch1-Kimball,Ch2-Kimball	3	9
6. OLAP operations	5	Summary from learning references	2	6
7. Students Introduce their presentations during lectures	7	-	2	6
Total			**14**	**42**

Assessment method	Grade	Comments
Mid Exam	40 %	Covers Chapters 1, 2 , 3
Assignments	20%	TBA
Final Exam	40%	Covers all topics
Total	100%	