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

Course Syllabus

Year: 2018-2019 **Semester: (2)**

Course No.	Course Title	Designation	Prerequisite	Co-requisite	Credit Hours Lectures /Lab.
151002351	Data Mining	Required	151001351	-	3 / 0

Instructor Name	E-mail	Office No.	Office ext.	Office Hours
Dr. Esra'a Alshdaifat	esraa@hu.edu.jo	231	-	Sun, Tue, Thu (10-11) Mon, Wed (9:30-12)
Dr. Ayuob Alsarhan	AyoubM@hu.edu.jo	232	-	Sun, Tue, Thu (12-1) Mon, Wed (9:30-12)

Coordinator's Name:	Dr. Esra'a Alshdaifat

Course Description	Data mining or knowledge discovery from databases (KDD) is one of the most active areas of research in databases. It is at the intersection of database systems, statistics, AI/machine learning, and data visualization. In this course, we will introduce the concepts of data mining and present data mining algorithms and applications. Topics include association rule mining, classification models, clustering, data visualization, mining complex types of data (text mining, multimedia mining, Web mining), data mining languages, data mining applications and new trends. The practical part includes applications and exercises using a data mining tool such as WEKA.

a) Textbook (s):
1. Jiawei Han, Micheline Kamber and Jian Pei, Data Mining -- Concepts and Techniques, Morgan Kaufmann, Third Edition, 2011.
b) References:
1. Pang-Ning Tan, Michael Steinbach, Vipin Kumar, Introduction to Data Mining, Addison Wesley, 2006.
2. WEKA toolkit: It is a set of software for machine learning and data mining developed. It is an open source software issued under the GNU General Public License. (Download the software from: http://www.cs.waikato.ac.nz/ml/weka/)

Course Learning Outcomes CLOs
1. **Understand** the concepts, strategies, and methodologies related to the design and construction of data mining. **(1)**
2. **Understand** several data preprocessing methods. **(1,2)**
3. **Apply** appropriate mining techniques to extract unexpected patterns and new rules that are "hidden" in large dataset. **(1,2)**
4. **Apply** an appropriate mining algorithm for a given dataset. **(1,2)**
5. **Use** data mining tools to preprocess a given dataset and extract patterns from it. **(5 and 6)**
Addressed Student Learning Outcomes (SLOs)
1, 2, 5 and 6

Topic	CLO number	Reference	No. of Weeks	Contact hours*
1. Introduction to Data Mining and KDD	1	Ch1	1	3
2. Getting to Know Your Data	1	Ch2	2	6
3. Data Preprocessing	2,5	Ch3	3	9
4. Mining Association Rules	3,5	Ch6	3	9
5. Data Classification Techniques	4, 5	Ch8	4	12
6. Cluster Analysis: Basic Concepts and Methods	4	Ch10	1	3
Total			14	42

Assessment method	Grade	Comments
Mid Exam	30%	Covers Chapters 1,2,3 and 6
Assignments	30%	Assignment-1: Data exploration and preparation Assignment-2: Data mining in action
Final Exam	40%	Covers all topics that were discussed during the semester
Total	100%	