



Jordan University of Science and Technology
Faculty of Computer & Information Technology
Computer Information Systems Department

CIS423 Big Data Management

Second Semester 2020-2021

Course Catalog

3 Credit Hours. The course will discuss data management techniques for storing and analyzing very large amounts of data. The emphasis will be on columnar databases and on Map Reduce as a tool for creating parallel algorithms that can process very large amounts of data. In addition the discussions will focus on applications of Big Data in internet advertising, healthcare and social network analysis. Topics include: Introduction to the Big Data problem. Current challenges, trends, and applications, Columnar stores, distributed databases, Map-Reduce paradigm and the Hadoop ecosystem, Locality Sensitive Hashing (LSH), Dimensionality reduction, Data streams, unstructured data processing, NoSQL, and NewSQL.

Text Book

Title	Big Data Fundamentals: Concepts, Drivers & Techniques
Author(s)	Thomas Erl, Wajid Khattak, and Paul Buhler
Edition	1st Edition
Short Name	Textbook
Other Information	

Instructor

Name	Dr. Mohammed Shatnawi
Office Location	PH4 L-1
Office Hours	Mon : 11:00 - 13:00 Tue : 10:30 - 13:00 Wed : 10:30 - 13:00 Thu : 14:00 - 15:30
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Class Schedule & Room

Section 1:

Lecture Time: Mon, Wed : 13:00 - 14:30

Room: منصة الكترونية

Prerequisites

Line Number	Course Name	Prerequisite Type
1743210	ClS321 Data Mining	Prerequisite / Study

Tentative List of Topics Covered

Weeks	Topic	References
Weeks 1, 2	Understanding Big Data and Hadoop	
Week 3	Business Motivations and Drivers for Big Data	Chapter 2 From Textbook
Week 4	Hadoop Architecture and HDFS	

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Understand what Big Data is and why classical data analysis techniques are no longer adequate [1SO1]	20%	Midterm, Quizzes
Understand the benefits that Big Data can offer to businesses and organizations [1SO2]	30%	Midterm, Quizzes
Understand conceptually how Big Data is stored [1SO1]	10%	Final
Understand how Big Data can be analyzed to extract knowledge [1SO1]	10%	Final
Understand the Big data computing environment [1SO1]	10%	Final
Ability to select and implement computing environment that are suitable for the applications under consideration. [1SO6]	20%	Final

Relationship to Program Student Outcomes (Out of 100%)

A	B	C	D	E	F	G	H	I	J	K	SO1	SO2	SO3	SO4	SO5	SO6
											50	30				20

Evaluation

Assessment Tool	Weight
Midterm	30%
Final	50%
Quizzes	20%

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