QF05/0408-4.0E	Course Plan for master program - Study Plan Development and Updating Procedures/ Management Information Systems Department

Study plan No.	**2022/2021**		**University Specialization**	**MIS**	
Course No.	**0506713**		**Course name**	**Big Data for Business**	
Credit Hours	**3**		**Prerequisite/ Co-requisite**		
Course type	☐ MANDATORY UNIVERSITY REQUIREMENT	☐ UNIVERSITY ELECTIVE REQUIREMENTS	☐ FACULTY MANDATORY REQUIREMENT	☐ Support course family requirements	☐ Mandatory requirements	☐ Elective Requirements
Teaching style	☐ **Full online learning**		☐ **Blended learning**		☐ **Traditional learning**	
Teaching model	☐ **1 Synchronous: 1 asynchronous**		☑**1 face to face : 1 asynchronous**		☐ **2 Traditional**	

Faculty member and study divisions' information (to be filled in each semester by the subject instructor)

Name	Academic rank	Office No.	Phone No.	E-mail	
Dr. Zaher Al-Sai	**Assistant Professor**			**z.alsai@zuj.edu.jo**	
Division number	**Time**	**Place**	**Number of students**	**Teaching style**	**Approved model**

Brief description

The main learning objectives in this course include concepts of big data technologies, theoretical principles, and how to apply these technical approaches to solve practical issues. Also, the course aims to provide students with a general introduction to the concepts and principles of data analytics and exploration. Moreover, this course also Introduces the basic concepts and modern technology in big data management including organizing, managing, and controlling huge amounts of organized and unstructured data. In addition, this course included: MapReduce, Hadoop, IoT, Data warehouse offloading, industry 4.0, digital transformation, and Big Data projects. In addition, hands-on using Microsoft Power BI will provide w real case study from the industry.

Learning resources

Course book information (Title, author, date of issue, publisher ... etc.)	Big Data Imperatives: Enterprise Big Data Warehouse, 'BI' implementations and analytics (2013), by: Mohanty, S., Jagadeesh, M., & Srivatsa, H.
Supportive learning resources (Books, databases, periodicals, software, applications, others)	- Big data for dummies. John Wiley & Sons by Hurwitz, J. S., Nugent, A., Halper, F., & Kaufman, M. (2013). - Big Data Principles and Paradigms: Buyya, R., Calheiros, R. N., & Dastjerdi, A. V. (Eds.). (2016). - Big data: principles and paradigms. By Morgan Kaufmann. - Big Data For Beginners: Understanding SMART Big Data, Data Mining & Data Analytics For improved Business Performance, Life Decisions & More! ": Vince Reynolds, 1th, Edition 2016.
Supporting websites	https://www.gutcheckit.com/blog/veracity-big-data-v/ https://powerbi.microsoft.com/en-us/

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The physical environment for teaching	☑ Classroom	☑ labs	☐ Virtual educational platform	☐ Others
Necessary equipment and software	**Microsoft Power BI**			
Supporting people with special needs				
For technical support				

Course learning outcomes (S= *Skills, C= Competences K= Knowledge,)*

No.	Course learning outcomes	The associated program learning output code
	Knowledge	
K1	Explain the concept of Big Data and Analytics	
K2	Analyze the Big Data challenges in the business world	
K3	Develop an understanding of Big Data enhancement techniques and storage techniques.	
K4	The ability to develop and apply the storage systems of big data.	
	Skills	
S1	Develop skills to analyze data challenges and case uses.	
S2	Develop skills to use Big Data tools and techniques in making decisions	
S3	Develop teamwork and presentation skills	
S4	Oral communication skill	
	Competences	
C1	The ability to understand the concept of Big Data and information and understand characteristics of Big Data.	
C2	Analyse and discussing several industry use cases for Big Data implementations	
C3	Understand the different types of Big Data technologies and techniques Understand and use different data storage and restoration methods The ability to manage, control of organized and unstructured data.	
C4	Understand and use different types of big data. Understand and use different types of big data database systems. Apply core Big Data concepts and technology in the business disciplines to develop integrated and innovative strategies to address Big Data challenges.	

Mechanisms for direct evaluation of learning outcomes

Type of assessment / learning style	Fully electronic learning	Blended learning	Traditional Learning	Traditional Learning (Practical

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			(Theory Learning)	Learning)
Midterm exam	30%	**30%**	40%	30%
Participation / practical applications	0	**0**	10%	30%
Asynchronous interactive activities	30%	**30%**	0	0
Final exam	40%	**40%**	50%	40%

Note 1: Asynchronous interactive activities are activities, tasks, projects, assignments, research, studies, projects, work within student groups ... etc, which the student carries out on his own, through the virtual platform without a direct encounter with the subject teacher.

Note 2: According to the Regulations of granting Master's degree at Al-Zaytoonah University of Jordan, 40% of final evaluation goes for the final exam, and 60% for the semester work (examinations, reports, research or any scientific activity assigned to the student).

Schedule of simultaneous / face-to-face encounters and their topics

Week	Subject	learning style*	Reference **
1	An overview of Big Data and analytics		Chapter 1 YouTube
2	An overview of Big Data Challenges in Industry.		Chapter 1
3	Foundations and technologies for Big Data		Chapter 2
4	The concepts \ difference of Data Science, Business Analytics, and Intelligence.		Chapter 2
5	Understanding the landscape and architecture of the applications, technologies, tools, and solutions of Big Data and Big Data Analytics in Enterprise		Chapter 3
6	Explaining why the traditional approaches can't handle the Big Data scale and what to do about this.		Chapters 5, 7, 8
7	Explaining how to manage the Big Data Project.		Chapters 5, 7, 8
8	Understanding the real industrial challenges of Big Data and Analytics and proposed solutions for these challenges.		Chapters 5, 7, 8
	Midterm exam		
9	Discovering the Big Data Analytics technologies, tools, and platform.		Chapter 9

10	Introduction to Microsoft Power BI		
11	Visuals and modification		
12	Hands-on		
13	Hands-on		
14	Projects' presentations		
15	**Final exam & projects' presentations**		

*** Learning styles: Lecture, flipped learning, learning through projects, learning through problem solving, participatory learning ... etc.**
**** Reference: Pages in a book, database, recorded lecture, content on the e-learning platform, video, website ... etc.**

Schedule of asynchronous interactive activities (in the case of e-learning and blended learning)

Week	Task / activity	Reference	Expected results
1	Selected tasks\ activities will be provided to students	Will be provided to students	
2	Selected tasks\ activities will be provided to students	Will be provided to students	
3	Selected tasks\ activities will be provided to students	Will be provided to students	
4	Selected tasks\ activities will be provided to students	Will be provided to students	
5	Selected tasks\ activities will be provided to students	Will be provided to students	
6	Selected tasks\ activities will be provided to students	Will be provided to students	
7	Selected tasks\ activities will be provided to students	Will be provided to students	
8	Selected tasks\ activities will be provided to students	Will be provided to students	
9	Selected tasks\ activities will be provided to students	Will be provided to students	
10	Selected tasks\ activities will be provided to students	Will be provided to students	
11	Selected tasks\ activities will be provided to students	Will be provided to students	
12	Selected tasks\ activities will be provided to students	Will be provided to students	
13	Selected tasks\ activities will be provided to students	Will be provided to students	