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Study plan No.	**2022/2021**		**University Specialization**		**MIS**	
Course No.	**506711**		**Course name**		**Advanced Business Analytics**	
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	
Division number	**Time**	**Place**	**Number of students**	**Teaching style**	**Approved model**

Brief description

This course aims to provide students with a general introduction to the concepts and principles of data analytics and exploration. It also aims to teach students basic concepts to explore and analyze relationships and knowledge extracted from structured or unstructured data. Review the analysis, data and convert it into useful information to extract knowledge from it. The topics raised are methods of statistical regression analysis, data classification, forecasting methods, relationships between data, data collection, discovery of extreme values, and processing and managing data. Also, this course Introduce the basic concepts and modern technology in giant or big data management including organizing, managing, controlling huge amounts of organized and unstructured data. In addition, this course including storage systems (Hadoop), methods for processing large amounts of data (cartographic data reduction, data compression), database systems (relational database systems), integrating Hadoop with statistical programs such as SAS.

Learning resources

Course book information (Title, author, date of issue, publisher ... etc.)	"Data Analytics for Beginners: Basic Guide to Master Data Analytics": Kinley, Paul, 4th, Edition 2016.			
Supportive learning resources (Books, databases, periodicals, software, applications, others)	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://powerbi.microsoft.com/en-us/			
The physical environment for teaching	☑ Class room	☑ labs	☐ Virtual educational platform	☐ Others
Necessary equipment and software				
Supporting people with special needs				
For technical support				

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

No.	Course learning outcomes	The associated program learning output code
	Knowledge	
K1	Develop a fundamental understanding of a general introduction to the concepts and principles of data analytics and exploration.	**MK1**
K2	Develop an understanding the methods of processing data.	**MK2**
K3	Develop an understanding of data enhancement techniques and storage and restoration methods.	**MK2**
K4	The ability to develop and apply the storage systems of big data.	**MK3**
	Skills	
S1	Develop skills to analyze data.	**MS1**
S2	Develop skills to use business intelligence tools and techniques in making decisions	**MS2**
S3	Develop teamwork and presentation skills	**MS3**
S4	Oral communication skill	**MS1**
	Competences	
C1	The ability to understand the concept of comparative of data and information and understand relationships between data. Apply data analytics techniques and concepts of data classification. Demonstrate a knowledge of data collection and discovery of extreme values.	**MC2**
C2	Identify processing and managing data the techniques Analyze data processing problems and recognizing effective solutions.	**MC1**
C3	Understand and use different data enhancement techniques Understand and use different data storage and restoration methods The ability to manage, control of organized and unstructured data.	**MC2**
C4	Understand and use different types of big data. Understand and use different segmentation techniques for facilitate the processing big data. Understand and use different types of big data database systems. The ability to manage, control huge amounts of organized and unstructured data in databases and database systems.	**MC2**

Mechanisms for direct evaluation of learning outcomes

Type of assessment / learning style	Fully electronic learning	Blended learning	Traditional Learning (Theory Learning)	Traditional Learning (Practical Learning)
Midterm exam		**30%**		
Participation / practical applications		**0**		
Asynchronous interactive activities		**30%**		
Final exam		**40%**		

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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	Overview of data analytics. - Foundation data analytics. - What is data - What is information - What are Information properties - What is the system - What are the information systems? - What are the differences between data and information? What is the main functional of systems?	Lecture	
2	Overview of data analytics. - What is data analytics? - Steps to analyze data. - Types of data analytics - The importance of systems analysis	Lecture	
3	The basics of data analytics: Surveys - Explaining data - Data managing and controlling Applying data	Lecture	
4	Practical session on data analytics in business and industry	Lecture, learning through projects, learning through problem solving	
5	Practical session on data analytics in business and industry		
6	Practical session - Descriptive Analytics - Charts and Graphs Applying data	Lecture, learning through projects, learning through problem solving.	
7	Big Data: Overview of Big data - What is Big Data - The stages of the data engineering and management	Lecture, learning through projects, learning through problem solving	

	process - Big data management - Big data sources - Big data platforms53 Big data challenges		
	Big Data: Understanding big data better - How to value data - Characteristics of big data - Parties in the big data system Big data areas	Lecture, learning through projects, learning through problem solving	
	Mid Exam		
8	Big data applications or domains - The government sector and big data - Big data analysis and education improvement Big data in the economic field	Lecture, learning through projects, learning through problem solving	
9	Big data technologies: Hadoop	Lecture, learning through projects, learning through problem solving	
10	Practical examples of big data in organizations Or sectors	Lecture, learning through projects, learning through problem solving	
11	Practical examples of big data in organizations Or sectors	Lecture, learning through projects, learning through problem solving	
12	Practical examples of big data in Industry	Lecture, learning through projects, learning through problem solving	
13	Revision	Lecture, learning through projects, learning through problem solving	
14-15	Revision	Lecture, learning through projects, learning through problem solving	
16	**Final Exam**		

*** Learning styles: Lecture, flipped learning, learning through projects, learning through problem solving, participatory learning ... etc.**

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**** 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	Provide the foundation data analytics. What is the main functional of systems?	Search Engines Books	Report
2	Explain the phases of analyze data. The importance of systems analysis	Search Engines Books	Report
3	What are the basics of data analytics?	Search Engines Books Reports	Report
4	Hands-on and Practical session on data analytics in business and industry	Search Engines Books	Hands-on
5	Practical session on data analytics in business and industry	Search Engines Books	Hands-on
6	Practical session - Descriptive Analytics - Charts and Graphs Applying data	Search Engines Books	Hands-on
7	Explain the stages of the data engineering and management process - Big data management - Big data sources - Big data platforms	Search Engines Books	Report
8	Provide some real industry challenges about Big data challenges	Search Engines Industry Websites	Report
	Mid Exam		
9	Provide real industry examples about Big data applications or domains	Search Engines Books	Report
10	What are the top 10 Big data technologies	Search Engines Books	Report
11	Provide real industry examples about Big Data applications in government sector and education	Search Engines Books	Case studies
12	Provide real industry examples about Big Data applications in Healthcare		Case studies
13	Practical examples of big data in organizations Or sectors	Search Engines Books	
14	Practical examples of big data in Industry	Search Engines Books	Case studies
15-16	Revision	Search Engines Books	

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