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

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 wide range knowledge regarding analyzing the business data gradually, from simple analyzing approaches to more complex ones. Furthermore, the student supposed to gain an excellent knowledge about the basic functions of Microsoft excel that serving the goal of analyzing business data. In addition, practicing on how to understand the data, summarizing, finding the relationships and patterns. On the other hand, the students supposed to gain a knowledge about using the statistical inference with respect to analyze business data. Finally, the students are supposed to learn how to simulate models, which help in making inferences from the simulation results.

Learning resources

Course book information (Title, author, date of issue, publisher ... etc.)	"Business Analytics: Data Analysis & Decision Making": S. Christian Albright, Wayne L. Winston, 7th Edition (2019).			
Supportive learning resources (Books, databases, periodicals, software, applications, others)	"Data Analytics for Beginners: Basic Guide to Master Data Analytics": Kinley, Paul, 4th, Edition 2016.			
Supporting websites	https://support.microsoft.com/en-us/office/basic-tasks-in-excel-dc775dd1-fa52-430f-9c3c-d998d1735fca			
The physical environment for teaching	☑ Class room	☑ labs	☐ Virtual educational platform	☐ Others
Necessary equipment and software	**Microsoft Excel**			
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

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

	Knowledge	
K1	Understanding the basic concepts and components of datasets.	**MK1**
K2	Develop an understanding of the distribution of business data variables, and how to find relationships among them.	**MK2**
K3	Understanding the power of statistical inference with respect to analyzing business data.	**MK2**
K4	The ability to simulate the data analysis outcomes.	**MK3**
	Skills	
S1	Develop skills to analyze data.	**MS1**
S2	Develop skills to use certain Microsoft Excel tool functions and techniques in analyzing data.	**MS2**
S3	Develop teamwork and presentation skills	**MS3**
S4	Oral communication skill	**MS1**
	Competences	
C1	The ability to understand the business analytics, specifically, aims goals, approaches and techniques.	**MC2**
C2	Understanding how to deal with different business variables types and importance in the analytical operation.	**MC1**
C3	Understanding the approaches of finding the relationships between the business data variables and observations. Understanding the related statistical functions that generally used to analyze the data distribution.	**MC2**
C4	Understanding the common approaches devoted to simulate data models.	**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%**		

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

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

Week	Subject	learning style*	Reference **
1	Introduction to Business Analytics: - Overview of business analytics - Introduction to Spreadsheet Modeling (practical).	Lecture	1 - 36
2	Describing the Distribution of a Variable: - Basic Concepts - Summarizing Categorical Variables (practical). - Summarizing Numeric Variables (practical).	Lecture	38 -62
3	Describing the Distribution of a Variable: - Time Series Data (practical). - Outliers and Missing Values - Excel Tables for Filtering, Sorting, and Summarizing (practical).	Lecture	62-83
4	Finding Relationships among Variables: - Relationships among Categorical Variables (practical). - Relationships among Categorical Variables and a Numeric Variable (practical). - Relationships Among Numeric Variables (practical).	Lecture	84 - 104
5	Finding Relationships among Variables: - Pivot Tables (practical).	Lecture	106 - 131
6	Sampling and Sampling Distributions - Sampling Terminology. - Methods for Selecting Random Samples (practical). - Introduction to Estimation (practical).	Lecture	279-322
7	Confidence Interval Estimation: - Sampling Distributions. - Confidence Interval for a Mean (practical). - Confidence Interval for a Total (practical). - Confidence Interval for a Proportion (practical).	Lecture	323-340
	Confidence Interval Estimation: - Confidence Interval for a	Lecture	340- 367

	Standard Deviation (practical). - Confidence Interval for the Difference Between Means (practical). - Confidence Interval for the Difference Between Proportions (practical). - Sample Size Selection (practical).		
	Mid Exam		
8	Hypothesis Testing: - Concepts in Hypothesis Testing. - Hypothesis Tests for a Population Mean. - Hypothesis Tests for Other Parameters (practical).	Lecture	368 - 394
9	Hypothesis Testing: - Tests for Normality (practical). - Chi-Square Test for Independence (practical). - Solve further problems practically.	Lecture	395 - 410
10	Introduction to Simulation Modeling: - Probability Distributions for Input Variables (practical). - Simulation and the Flaw of Averages (practical). - Simulation with Built-in Excel Tools (practical).	Lecture	717 - 747
11	Introduction to Simulation Modeling: - Simulation with @RISK (practical). - The Effects of Input (practical). - Distributions on Results (practical).	Lecture	747 - 778
12	Simulation Models: - Operations Models (practical). - Financial Models (practical).	Lecture	779 - 809
13	Simulation Models: - Marketing Models (practical). - Simulating Games of Chance (practical).	Lecture	810 - 836
14-15	Revision	Lecture	
16	**Final Exam**		

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

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

**** 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	Selected tasks\ activities will be provided to students
2	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
3	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
4	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
5	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
6	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
7	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
8	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
9	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
10	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
11	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
12	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
13	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students
14	Selected tasks\ activities will be	Will be provided to	Selected tasks\ activities

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

	provided to students	students	will be provided to students
15-16	Selected tasks\ activities will be provided to students	Will be provided to students	Selected tasks\ activities will be provided to students