

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and scientific research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

Course Description: Data Analysis by Computer

1- Basic Information:

Course Name	Data Analysis by Computer
Course ID	DAC.23
Contact Hours (Synchronized Sessions)	28
Contact Hours with the tutor outside the Synchronized Sessions	17
Contact Hours (Registered Sessions)	130
Exam	
Registered Sessions Work Load	
Synchronized Sessions Work Load	
Credit Hours	7
Course Level	7

2- Pre - Requisites:

Course	ID
Business Research Methods	BRM.12

3- Course General Objectives:

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This course aims to provide the student with basic skills and knowledge necessary to analyze quantitative data using computers, specifically using SPSS. It deals with the descriptive statistics and indicators of variable's distribution shape. It also explains the type hypotheses and hypothesis testing methods like nonparametric tests, t-test, analysis of variance, correlation and linear regression. The course also explains how to perform factor analysis and how to test the internal reliability of measures.

4- Intended Learning Outcomes (ILO):

Code	Code Intended Learning Outcomes
ILO1	Student distinguishes the measure types and chooses the appropriate statistical analysis according to the type of scale
ILO2	Student becomes familiar with basic SPSS windows and menus and correctly defines variables and enters data
ILO3	Student performs and explains the results of basic descriptive statistical analysis and discusses the variable distribution shape.
ILO4	Student compares the types of hypotheses and explains the steps for testing them
ILO5	Student applies the studied statistical test and explains their results
ILO6	Student applies factor analysis and tests the reliability of measures

5- Course Syllabus (21 hours of total Recorded Sessions, 28 hours of total synchronized sessions)

- RS: Recorded Sessions; SS: Synchronized Sessions

LLO	Course Syllabus	RS	SS	Type	Additional Notes
ILO1	Reminder of Scales and Questionnaire Design	4	2	<ul style="list-style-type: none"> • Exercises • Assignments • Seminars • Projects • Practices • Others 	Student is asked to submit a homework in which a questionnaire is designed to study a specific problem, and then he distributes the questionnaire to a sample of respondents and analyzes the resulting data

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ILO2	The SPSS Program	2	1	<ul style="list-style-type: none"> • Exercises • Assignments • Seminars • Projects • Practices • Others 	Student is asked to submit a homework in which a questionnaire is designed to study a specific problem, and then he distributes the questionnaire to a sample of respondents and analyzes the resulting data
ILO3	Descriptive Analysis	2	1	<ul style="list-style-type: none"> • Exercises • Assignments • Seminars • Projects • Practices • Others 	Student is asked to submit a homework in which a questionnaire is designed to study a specific problem, and then he distributes the questionnaire to a sample of respondents and analyzes the resulting data
ILO4 ILO5	Crosstabulations, Hypothesis Testing, and Chi Square Test	2	2	<ul style="list-style-type: none"> • Exercises • Assignments • Seminars • Projects • Practices • Others 	Student is asked to submit a homework in which a questionnaire is designed to study a specific problem, and then he distributes the questionnaire to a sample of respondents and analyzes the resulting data
ILO5	T-Test	2	2	<ul style="list-style-type: none"> • Exercises • Assignments • Seminars • Projects • Practices • Others 	Student is asked to submit a homework in which a questionnaire is designed to study a specific problem, and then he distributes the questionnaire to a sample of respondents and analyzes the resulting data

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ILO5	Variance Analysis	4	2	<ul style="list-style-type: none"> · Exercises · Assignments · Seminars · Projects · Practices · Others 	Student is asked to submit a homework in which a questionnaire is designed to study a specific problem, and then he distributes the questionnaire to a sample of respondents and analyzes the resulting data
ILO5	Correlation Analysis	2	1	<ul style="list-style-type: none"> · Exercises · Assignments · Seminars · Projects · Practices · Others 	Student is asked to submit a homework in which a questionnaire is designed to study a specific problem, and then he distributes the questionnaire to a sample of respondents and analyzes the resulting data
ILO5	Simple and Multiple Linear Regression	2	2	<ul style="list-style-type: none"> · Exercises · Assignments · Seminars · Projects · Practices · Others 	Student is asked to submit a homework in which a questionnaire is designed to study a specific problem, and then he distributes the questionnaire to a sample of respondents and analyzes the resulting data
ILO5	Nonparametric Tests	2	1	<ul style="list-style-type: none"> · Exercises · Assignments · Seminars · Projects · Practices · Others 	Student is asked to submit a homework in which a questionnaire is designed to study a specific problem, and then he distributes the questionnaire to a sample of respondents and analyzes the resulting data

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ILO6	Factor Analysis	4	2	<ul style="list-style-type: none"> • Exercises • Assignments • Seminars • Projects • Practices • Others 	Student is asked to submit a homework in which a questionnaire is designed to study a specific problem, and then he distributes the questionnaire to a sample of respondents and analyzes the resulting data
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6- Assessment Criteria (Related to LLOs)

ISC	Interactive Synchronized Collaboration	Ex	Exams	Rpt	Reports
PF2F	Presentations and Face-to-Face Assessments	PW	Practice Work		

LLO Code	LLO	Intended Results	Assessment Type				
			ISC	PW	Ex	PF2F	Rpt
ILO1	Student distinguishes the measure types and chooses the appropriate statistical analysis according to the type of scale	Student identifies the type of measure and their features	X	X	X		X
		Student chooses the statistical analysis appropriate to the type of metric	X	X	X		X
ILO2	Student becomes familiar with basic SPSS windows and menus and correctly defines variables and enters data	Student distinguishes basic windows and files in SPSS	X	X	X		
		Student defines the study variables and enters data into SPSS	X	X	X		
		Student describes the study	X	X	X		X

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ILO3	Student performs and explains the results of basic descriptive statistical analysis and discusses the variable distribution shape.	sample using frequencies					
		Student applies and explains the measures of central tendency and dispersion	X	X	X		X
		Student discusses the distribution shape of metric variables	X	X	X		X
ILO4	Student compares the types of hypotheses and explains the steps for testing them	Student discusses the concept of hypothesis and distinguishes types of hypotheses	X	X	X		
		Student discusses the steps for hypothesis testing	X	X	X		
ILO5	Student applies the studied statistical test and explains their results	Student implements the nonparametric tests and explain its outcomes	X	X	X		X
		Student implements t-test and explains its outcomes	X	X	X		X
		Student implements the variance analysis and explains its outcomes	X	X	X		X
		Student implements the correlations and linear regression analysis and explains its outcomes	X	X	X		X
ILO6	Student applies factor analysis and tests the	Student performs factor analysis and interprets the resulting	X	X	X		X

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	reliability of measures	factor					
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7- Practice Tools:

Tool Name	Description
SPSS	A Statistical data analysis software from IBM Corporation that is widely used for data analysis in business administration

8- Main References:

1- الخضر، محمد، ديب، حيان، وعمار، نريمان (2017) بحوث التسويق: منهج نظري وتطبيقي وكمي باستخدام برنامج SPSS. دمشق: المعهد العالي لإدارة الأعمال-HIBA

2- البلداوي، عبد الحميد عبد المجيد (2007)، أساليب البحث العلمي والتحليل الإحصائي: التخطيط للبحث وجمع البيانات يدوياً وباستخدام SPSS، الطبعة الثالثة، دار الشروق، عمان، الأردن.

3- Arkkelin, Daniel. (2014) Using SPSS to Understand Research and Data Analysis. Valparaiso University.

4- Denis, Daniel J. (2019) SPSS Data Analysis for Univariate, Bivariate, and Multivariate Statistics, Wiley.

5- Hair, Joseph F., Black, William C., Babin, Barry J., Anderson, Rolph E. (2014) Multivariate data analysis, 7th edition, Pearson Education Limited.

6- Ho, Robert (2018) Understanding Statistics for the Social Sciences with IBM SPSS, CRC Press.

7- Leech, Nancy., Barrett, Karen., and Morgan, George. (2015) SPSS for Intermediate Statistics: Use and Interpretation, Fifth Edition. New York: Routledge.

9- Additional References:

1- Cleff, Thomas. (2019) Applied Statistics and Multivariate Data Analysis for Business and Economics: A Modern Approach Using SPSS, Stata, and Excel. Springer.

2- Ho, R. (2006) Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS, USA: Chapman & Hall/CRC.

3- Smits, Johan. (2011) SPSS for Intermediate Statistics: Use and Interpretation. Koala press limited.