

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
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Course Description: Data Analysis

1- Basic Information:

Course Name	Data Analysis
Course ID	BQM604
Contact Hours (Registered Sessions)	24
Contact Hours (Synchronized Sessions)	24
Mid Term Exam	-
Exam	75 min
Registered Sessions Work Load	54
Synchronized Session Work Load	24
Credit Hours	6
Course Level	6

2- Pre-Requisites:

Course	ID
Research Methodology	GRM501

3- Course General Objectives:

This course aims to provide students with information and functional skills related to data analysis using SPSS program for statistical analysis. This course helps students to recognize descriptive analyzes and enables them to distinguish, implement and interpret them. It also explains the methods of testing hypotheses using many statistical tests using SPSS data analysis program from T tests to correlation tests, simple and multiple regression. This course helps students during all the tests they face to choose the appropriate analysis and interpretation of statistical results.

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4- Intended Learning Outcomes (ILO):

Code	Intended Learning Outcomes
ILO1	Students acquire knowledge and functional skills related to the functions, windows, lists, and data entry types of the SPSS statistical program.
ILO2	A student compares between the types of hypotheses and be able to perform descriptive analysis using SPSS
ILO3	A student distinguishes the steps of the hypothesis test and be able to perform T-tests and interpret their results with the help of the statistical program SPSS.
ILO4	A student discusses the conditions of Univariate analysis and implements it using SPSS, as well as, he can explain the results of this analysis.
ILO5	A student explains the conditions of linear correlation analysis and implements it using SPSS program, and be able to interpret the statistical outputs.
ILO6	A student compares between the simple and multiple linear regression analysis and accomplishes both of them using the SPSS program and will be able to interpret their results.
ILO7	Students justify the using of nonparametric tests. In addition too, they can implement the tests using the data analysis program SPSS, and can interpret its results.

5- Course Syllabus (24 hours of total Recorded Sessions , 24 hours of total synchronized sessions)

- **RS:** Recorded Sessions; **SS:** Synchronized Sessions;

ILO	Course Syllabus	RS	SS	Type	Additional Notes
ILO 1	Introduction to data analysis using SPSS: <ul style="list-style-type: none"> □ Windows available in SPSS □ SPSS files □ SPSS Lists □ Data entry using SPSS 	4	4	<input type="checkbox"/> Exercises <input type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	The course assignment is consisted of some hypotheses, related questionnaire, and data. Students are asked to test the hypotheses and perform some statistical analysis using SPSS program in order to help them apply the concepts discussed in the course.

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ILO 2	Descriptive analysis and types of hypotheses <ul style="list-style-type: none"> <input type="checkbox"/> Frequencies <input type="checkbox"/> Measures of Central tendency <input type="checkbox"/> Dispersion measures <input type="checkbox"/> Distribution forms <input type="checkbox"/> Crosstabs tables 	4	4	<input type="checkbox"/> <u>Exercises</u> <input type="checkbox"/> <u>Assignments</u> <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	The course assignment is consisted of some hypotheses, related questionnaire, and data. Students are asked to test the hypotheses and perform some statistical analysis using SPSS program in order to help them apply the concepts discussed in the course
ILO 3	Testing hypotheses and test T <ul style="list-style-type: none"> <input type="checkbox"/> Steps to test hypotheses <input type="checkbox"/> One sample T-test <input type="checkbox"/> One sample T-test using SPSS <input type="checkbox"/> Independent samples T Test <input type="checkbox"/> Independent samples T Test using SPSS 	4	4	<input type="checkbox"/> <u>Exercises</u> <input type="checkbox"/> <u>Assignments</u> <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	The course assignment is consisted of some hypotheses, related questionnaire, and data. Students are asked to test the hypotheses and perform some statistical analysis using SPSS program in order to help them apply the concepts discussed in the course
ILO 4	Univariate analysis <ul style="list-style-type: none"> <input type="checkbox"/> Independent and dependent variables in univariate analysis <input type="checkbox"/> Conditions for univariate analysis <input type="checkbox"/> Univariate analysis using SPSS 	2	2	<input type="checkbox"/> <u>Exercises</u> <input type="checkbox"/> <u>Assignments</u> <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	The course assignment is consisted of some hypotheses, related questionnaire, and data. Students are asked to test the hypotheses and perform some statistical analysis using SPSS program in order to help them apply the concepts discussed in the course.
ILO 5	Analysis of linear correlation <ul style="list-style-type: none"> <input type="checkbox"/> Relationship between two variables <input type="checkbox"/> Linear correlation coefficient <input type="checkbox"/> Linear correlation test conditions 	4	4	<input type="checkbox"/> <u>Exercises</u> <input type="checkbox"/> <u>Assignments</u> <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	The course assignment is consisted of some hypotheses, related questionnaire, and data. Students are asked to test the hypotheses and perform some statistical

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	<input type="checkbox"/> Strength of the relationship <input type="checkbox"/> Test the linear correlation using SPSS				analysis using SPSS program in order to help them apply the concepts discussed in the course
ILO 6	Simple and multiple linear regression analysis <input type="checkbox"/> Simple linear regression and its conditions <input type="checkbox"/> Testing using SPSS <input type="checkbox"/> Multiple linear regression its and conditions <input type="checkbox"/> Testing using SPSS	4	4	<input type="checkbox"/> Exercises <input type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	The course assignment is consisted of some hypotheses, related questionnaire, and data. Students are asked to test the hypotheses and perform some statistical analysis using SPSS program in order to help them apply the concepts discussed in the course
ILO 7	Scientific tests <input type="checkbox"/> Normal distribution test <input type="checkbox"/> χ^2 Test <input type="checkbox"/> Mann-Whitney U Test <input type="checkbox"/> Kruskal-Wallis test <input type="checkbox"/> Wilcoxon test <input type="checkbox"/> Friedman test	2	2	<input type="checkbox"/> Exercises <input type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	The course assignment is consisted of some hypotheses, related questionnaire, and data. Students are asked to test the hypotheses and perform some statistical analysis using SPSS program in order to help them apply the concepts discussed in the course.

6- Assessment Criteria (Related to ILOs)

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

ILO Code	ILO	Intended Results	Assessment Type				
			ISC	PW	Ex	PF2F	Rpt
ILO1	Students acquire knowledge and	Students learn the functions, windows,	✓		✓		✓

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	functional skills related to the functions, windows, lists, and data entry types of the SPSS statistical program.	menus and SPSS files					
		Students distinguish between the most important data types	✓		✓		✓
		The student can enter various forms of data into the program	✓		✓		✓
ILO2	A student compares between the types of hypotheses and be able to perform descriptive analysis using SPSS	A student explains the difference between the types of hypotheses	✓		✓		✓
		A student performs various descriptive analyses and explains their significance and differences	✓		✓		✓
ILO3	A student distinguishes the steps of the hypothesis test and be able to perform T-tests and interpret their results with the help of the statistical program SPSS.	Student argue their teacher in the steps of testing hypotheses.	✓		✓		✓
		Student explain the rationale and conditions of One sample T-test and perform it using the statistical program and explains the results.	✓		✓		✓
		A student explains the rationale and conditions of Independent samples T- test, and performs it using the statistical program and explains the results.	✓		✓		✓
ILO4	A student discusses the conditions of Univariate analysis and implements it using SPSS, as well	A student argues his teacher about the conditions to carry out this test	✓		✓		✓

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	as, he can explain the results of this analysis.	A student can test specific hypotheses using this analysis and explain test's results.	✓		✓		✓
ILO5	A student explains the conditions of linear correlation analysis and implements it using SPSS program, and be able to interpret the statistical outputs.	Student argue their teacher in the concept of linear correlation coefficient and its implications	✓		✓		✓
		Student set the conditions of the linear correlation test, tests his hypotheses using SPSS, and explains the results.	✓		✓		✓
ILO6	A student compares between the simple and multiple linear regression analysis and accomplishes both of them using the SPSS program and will be able to interpret their results	A student explains the terms of the simple regression analysis test, be able to justify and execute it, and can explain its outputs.	✓		✓		✓
		A student explains the conditions and justifications for the multiple regression analysis test, be able to execute it and explain its outputs.	✓		✓		✓
		A student draws the differences between simple and multiple linear regression	✓		✓		✓
ILO7	Students justify the using of nonparametric tests. In addition too, they can implement the tests using the data analysis program SPSS, and can interpret its results.	A student can explain the reasons for conducting non-parametric tests and performs the appropriate non-	✓		✓		✓

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		parametric tests and explains their results					
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7- Practice Tools:

Tool Name	Description
SPSS program	It is an abbreviation for Statistical Package for the Social Science. It is one of the most widely used programs for analyzing statistical information in the social sciences. It is widely used by researchers in analyzing data in the fields of marketing, finance, psychology, human resources and education.

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.
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- 4- Cooper, Donald., and Schindler, Pamela. (2014) **Business research methods**. York New: McGraw-Hill
- 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
- 8- Page, Melanie., Braver, Sanford., and MacKinnon, David. (2003) **Levine's Guide to SPSS for Analysis of Variance** 2nd Edition. New Jersey: Lawrence Erlbaum Associates.

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9- Additional References

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- 10- **IBM SPSS Statistics 21 Core System User's Guide** (2012)
- 11- Malhotra, N. K. (2019) **Marketing Research: An Applied Orientation, global edition**. 7th Edition, USA: Pearson.
- 12- Smits, Johan. (2011) **SPSS for Intermediate Statistics: Use and Interpretation**. Koala press limited.