

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

Course Definition File

1. Basic Information:

Course Name	Data analysis
Course ID	BQM305
Contact Hours (Registered Sessions)	18
Contact Hours (Synchronized Sessions)	18
Mid Term Exam	
Exam	75min
Registered Sessions Work Load	18
Synchronized Session Work Load	18
Credit Hours	4

2. Pre-Requisites:

Course	ID
Operations Research	BQM202

3. Course General Objectives:

The course aims to give students a thorough overview of the quantitative data analysis methods using computers. The course includes a definition of the scales and its types, and how to design a questionnaire as a tool to collect quantitative data. The course also distinguishes between descriptive analysis methods and inferential analysis methods. The course explains too how to test hypothesis. Besides, it addresses how to apply a wide range of statistical analysis methods in SPSS such as chi square, one sample t-test, independent samples t-test, paired samples t-test, analysis of variance, linear correlation, and simple and multiple linear regression.

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4. Intended Learning Outcomes (ILO):

Code	Intended Learning Outcomes
ILO1	Understand the types of scales and data and their relationship with the statistical analysis methods.
ILO2	Learn how to enter and analyze data and test hypothesis using a computer.
ILO3	Understand the difference between descriptive statistics and inferential statistics.
ILO4	Learn how to describe the sample and the variables using descriptive analysis methods.
ILO5	Understand how to test hypothesis using inferential statistics.
ILO6	Understand how to test the relationship between variables based on their types.
ILO7	Learn how to test the difference between means.
ILO8	Understand how to anticipate variations in the dependent variable as a function of one or more independent variable.

5. Course Syllabus (18 hours of total synchronized sessions)

RS: Recorded Sessions; SS: Synchronized Sessions;

ILO	Course Syllabus	RS	SS	Type	Additional Notes
ILO1	Questionnaire and scales: <ul style="list-style-type: none"> • Types of scales • Scaling technics • Questionnaire Design 	1.5	1.5	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	

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ILO1	Introduction to SPSS: <ul style="list-style-type: none"> • Windows available in SPSS • SPSS Files • SPSS menus • Entering data in SPSS 	1.5	1.5	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO2				<input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO2	Descriptive analysis: <ul style="list-style-type: none"> • Frequencies • Measures of central tendency • Dispersion measures • Distribution 	2.5	2.5	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO3				<input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO4				<input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO2	Cross tabulations and chi square test: <ul style="list-style-type: none"> • Cross tabulations • Hypothesis testing • Chi square 	2.5	2.5	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO3				<input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO5				<input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO6				<input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO2	t-test: <ul style="list-style-type: none"> • One sample t-test • Independent samples t-test • Paired samples t-test 	2.5	2.5	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO5				<input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO7				<input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	

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ILO2 ILO5 ILO7	Analysis of variance: <ul style="list-style-type: none"> Variables Hypothesis Assumptions of the analysis Calculating statistical coefficients in ANOVA Test using SPSS 	2.5	2.5	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO2 ILO5 ILO6	Linear correlation analysis: <ul style="list-style-type: none"> Relationship between two variables Linear correlation coefficient Test using SPSS 	2.5	2.5	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	
ILO2 ILO5 ILO8	Linear regression: <ul style="list-style-type: none"> Simple linear regression Multiple linear regression 	2.5	2.5	<input checked="" type="checkbox"/> Exercises <input checked="" type="checkbox"/> Assignments <input type="checkbox"/> Seminars <input type="checkbox"/> Projects <input type="checkbox"/> Practices <input type="checkbox"/> Others	

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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	Understand the types of scales and data and their relationship with the statistical analysis methods.		X		X		X
ILO2	Learn how to enter and analyze data and test hypothesis using a computer.		X		X		X
ILO3	Understand the difference between descriptive statistics and inferential statistics.		X		X		X
ILO4	Learn how to describe the sample and the variables using descriptive analysis methods.		X		X		X
ILO5	Understand how to test hypothesis using inferential statistics.		X		X		X
ILO6	Understand how to test the relationship between variables based on their types.		X		X		X

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ILO7	Learn how to test the difference between means.		X		X		X
ILO8	Understand how to anticipate variations in the dependent variable as a function of one or more independent variable.		X		X		X

7. Practice Tools:

Tool Name	Description
SPSS	SPSS Program

8. Main References

1. Field A. (2006), Discovering Statistics Using SPSS, 2nd Edition, SAGE, England.
2. Ho R. (2006), Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS, Chapman & Hall/CRC, USA.
3. Landau S. & Everitt B.S. (2004), A Handbook of Statistical Analysis Using SPSS, Chapman & Hall/CRC Press, USA.
4. Malhotra N.K. (2010), Marketing Research: An Applied Orientation, 6th Edition, Pearson, USA.

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9. Additional References

1. Blumberg B., Cooper D.R., & Schindler P.S. (2005), Business Research Methods, Mcgraw–Hill, Berkshire.
2. Leech N.L., Barrett K.C., & Morgan G.A. (2005), SPSS for Intermediate Statistics: Use and Interpretation, 2nd Edition, Laerence Erlbaum Associates, Inc., USA.
3. Moore D.S., McCabe G.P., Alwan L.C., Craig B.A., & Duckworth W.M. (2011), The Practice of Statistics for Business and Economics, 3rd Edition, W.H. Freeman and Company, England.
4. Pallant J. (2007), SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS for Windows, 3rd Edition, McGraw Hill, USA.