The University of Jordan

الجامعة الاردنية

Form: **Course Syllabus**	**Form Number**	EXC-01-02-02A
	Issue Number and Date	2/3/24/2022/2963 05/12/2022
	Number and Date of Revision or Modification	2023/10/15
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	Number of Pages	06

1.	**Course Title**	Statistical Analysis
2.	**Course Number**	1607250
3.	**Credit Hours (Theory, Practical)**	3
	Contact Hours (Theory, Practical)	40
4.	**Prerequisites/ Corequisites**	Principles of statistics 1607150
5.	**Program Title**	BA Business Economics
6.	**Program Code**	07
7.	**School/ Center**	School of Business
8.	**Department**	Business Economics
9.	**Course Level**	2nd year
10.	**Year of Study and Semester (s)**	2025-2026 First Semester
11.	**Program Degree**	Bachelor
12.	**Other Department(s) Involved in Teaching the Course**	
13.	**Learning Language**	English
14.	**Learning Types**	✓Face to face learning ☐Blended ☐Fully online
15.	**Online Platforms(s)**	✓Moodle ✓Microsoft Teams
16	**Issuing Date**	20-09-2025
17.	**Revision Date**	20/09/2025

18. Course Coordinator:

Name: Ms. Ala' AlSamman	Contact hours: 09:30-11:00 Mon, Wed
Office number: -8 building 4	Phone number:
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19. Other Instructors:

Name:
Office number:
Phone number:
Email:
Contact hours:

20. Course Description:

This course provides a comprehensive introduction to probability and inferential statistics. Topics include discrete and continuous probability distributions, probability density functions, cumulative distribution functions, expectation, variance, and covariance. The course explores key statistical discrete and continuous distributions, and sampling distributions — with a focus on the sampling distribution of the sample mean and sample proportion.

Students will study both large and small sample theory using distributions such as the normal, chi-square, and Fisher distributions. Emphasis is placed on the method of least squares, interval estimation for population parameters (mean, proportion, variance), and differences between two populations. The course also covers hypothesis testing, correlation and regression analysis, goodness-of-fit tests, tests of independence, and analysis of variance (ANOVA) in one-way, two-way, and Latin square designs.

21. Program Intended Learning Outcomes: (To be used in designing the matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program)

PLO's	*National Qualifications Framework Descriptors*		
	Competency (C)	**Skills (B)**	**Knowledge (A)**
1. Explain the core economic terms, concepts, and theories, and the main foundations of microeconomic and macroeconomic disciplines and illustrate them with examples	☐	☐	☒
2. Utilize critical thinking and problem solving to analyze an economic problem and draw correct inferences using quantitative analysis	☐	☒	☐

based on the statistical and econometric tools.			
3. Employ the "economic way of thinking" through discussing the application of marginal analysis and explaining the use of benefit/cost analysis.	☐	☒	☐
4. Evaluate theory and critique research within the discipline, and conduct an economic modeling for an economic phenomenon.	☒	☐	☐
5.	☐	☐	☐

* Choose only one descriptor for each learning outcome of the program, whether knowledge, skill, or competency.

22. Course Intended Learning Outcomes: (Upon completion of the course, the student will be able to achieve the following intended learning outcomes)

Course ILOs #	The learning levels to be achieved						Competencies
	Remember	Understand	Apply	Analyse	Evaluate	Create	
1. **Explain key statistical methods and the theoretical foundations** that support them, including probability distributions, hypothesis testing, and non-parametric techniques.	✔	✔					Cognitive (Conceptual Understanding)
2. **Identify and classify types of data** (e.g., discrete, continuous, categorical) to select	✔	✔		✔			Analytical Thinking

appropriate statistical tools for analysis.							
3. **Apply discrete and continuous probability distributions** to analyze and solve practical problems in a business context.			✓	✓			Problem Solving
4. **Select and implement appropriate statistical procedures**, including confidence intervals and hypothesis tests, for both single-sample and two-sample cases.			✓	✓	✓		Quantitative Reasoning
5. **Interpret p-values and other statistical measures** to draw valid conclusions from hypothesis tests.				✓	✓		Critical Thinking
6. **Perform non-parametric statistical tests**, such as the Chi-Square test for independence and goodness of fit, when parametric assumptions are not satisfied.			✓	✓			Technical/Methodological Competency
7. **Analyze and interpret the results of**				✓	✓	✓	Communication &

statistical methods, and effectively communicate findings in a clear and meaningful way for decision-making.							Decision-Making Skills

23. The matrix linking the intended learning outcomes of the course -CLO's with the intended learning outcomes of the program -PLOs:

PLO's * CLO's	(1) Explain the core economic terms, concepts, and theories, and the main foundations of microeconomic and macroeconomic disciplines and illustrate them with examples	(2) Utilize critical thinking and problem solving to analyze an economic problem and draw correct inferences using quantitative analysis based on the statistical and econometric tools.	(3) Employ the "economic way of thinking" through discussing the application of marginal analysis and explaining the use of benefit/cost analysis.	(4) Evaluate theory and critique research within the discipline, and conduct an economic modeling for an economic phenomenon.	5	Descriptors**		
						A	B	C
1. **Explain key statistical methods and the theoretical foundations** that support them, including probability distributions, hypothesis testing, and non-parametric techniques.	✓			✓				

2. **Identify and classify types of data** (e.g., discrete, continuous, categorical) to select appropriate statistical tools for analysis.	✓	✓					
3. **Apply discrete and continuous probability distributions** to analyze and solve practical problems in a business context.		✓	✓				
4. **Select and implement appropriate statistical procedures**, including confidence intervals and		✓	✓	✓			

hypothesis tests, for both single-sample and two-sample cases.								
5. **Interpret p-values and other statistical measures** to draw valid conclusions from hypothesis tests.		✓		✓				
6. **Perform non-parametric statistical tests**, such as the Chi-Square test for independence and goodness of fit, when parametric assumptions are not satisfied.		✓		✓				

		✓	✓	✓				
7. **Analyze and interpret the results of statistical methods**, and effectively communicate findings in a clear and meaningful way for decision-making.								

*Linking each course learning outcome (CLO) to only one program outcome (PLO) as specified in the course matrix.

**Descriptors are determined according to the program learning outcome (PLO) that was chosen and according to what was specified in the program learning outcomes matrix in clause (21).

24. Topic Outline and Schedule:

Week	Lecture	Topic	ILO/s Linked to the Topic	Learning Types (Face to Face/ Blended/ Fully Online)	Platform Used	Synchronous / Asynchronous	Evaluation Methods	Learning Resources
1	1.1	Introduction	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 6
	1.2	Discrete Probability Distributions	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 6
	1.3	Discrete Probability Distributions	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 6
2	2.1	Discrete Probability Distributions	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 6
	2.2	Continuous Probability Distributions	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 7
	2.3	Continuous Probability Distributions	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 7
3	3.1	Continuous Probability Distributions	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 7
	3.2	Sampling Methods and the Central limit Theorem	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 8

	3.3	Sampling Methods and the Central limit Theorem	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 8
4	4.1	Sampling Methods and the Central limit Theorem	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 8
	4.2	Estimation and Confidence Intervals	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 9
	4.3	Estimation and Confidence Intervals	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 9
5	5.1	Estimation and Confidence Intervals	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 9
	5.2	Estimation and Confidence Intervals	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 9
	5.3	One-Sample Tests of Hypothesis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 10
6	6.1	One-Sample Tests of Hypothesis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 10
	6.2	One-Sample Tests of Hypothesis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 10
	6.3	One-Sample Tests of Hypothesis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 10
7	7.1	Two-Sample Tests of Hypothesis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 11

	7.2	Two-Sample Tests of Hypothesis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 11
	7.3	Two-Sample Tests of Hypothesis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 11
8	8.1	Two-Sample Tests of Hypothesis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 11
	8.2	Midterm Exam						
	8.3	Solving Exam questions						
9	9.1	Analysis of Variance	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 12
	9.2	Analysis of Variance	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 12
	9.3	Analysis of Variance	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 12
10	10.1	Analysis of Variance	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 12
	10.2	Linear Regression and Correlation?	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 13
	10.3	Linear Regression and Correlation?	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 13
11	11.1	Linear Regression and Correlation?	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 13

	11.2	Linear Regression and Correlation?	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 13
	11.3	Public Holiday						
12	12.1	Second Exam						
	12.2	Solving second Exam questions						
	12.3	Multiple Regression and Correlation Analysis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 14
13	13.1	Multiple Regression and Correlation Analysis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 14
	13.2	Multiple Regression and Correlation Analysis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 14
	13.3	Multiple Regression and Correlation Analysis	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	Textbook Chapter 14
14	14.1	Chi-Square Applications	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	
	14.2	Chi-Square Applications	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	
	14.3	Chi-Square Applications	1&2&3&4	FTF	E-Learning & MS Teams		Exams & In class Questions	
15	15.1	REVISION						
	15.2	Final Exam						

15.3							

25. Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	*Mark wt.	CLO's					
		1	**2**	**3**	**4**	**5**	**6**
midterm Exam	30	✓	✓	✓	✓	✓	
Second Exam/quizes –If any	15	✓	✓	✓	✓	✓	
Final Exam	50	✓	✓	✓	✓	✓	
**Class work	5	✓	✓	✓	✓	✓	
Projects/reports							
Research working papers							
Field visits							
Practical and clinical							
Performance Completion file							
Presentation/ exhibition							
Any other approved works							
Total 100%	100						

* According to the instructions for granting a Bachelor's degree.

**According to the principles of organizing semester work, tests, examinations, and grades for the bachelor's degree.

Mid-term exam specifications table*

No. of questions/ cognitive level						No. of questions per CLO	Total exam mark	Total no. of questions	CLO/ Weight	CLO no.
Create %10	Evaluate %10	analyse %10	Apply %20	Understand %20	Remember %30					
1	1	1	4	2	1	10	100	100	10%	1

Final exam specifications table

No. of questions/ cognitive level						No. of questions per CLO	Total exam mark	Total no. of questions	CLO Weight	CLO no.
Create %10	Evaluate %10	analyse %10	Apply %20	Understand %20	Remember %30					
										1
										2
										3
										4
										5

26. Course Requirements:

(e.g.: students should have a computer, internet connection, webcam, account on a specific software/platform…etc.):

27. Course Policies:

A- Attendance policies: As per the University Rules and Regulations

B- Absences from exams and submitting assignments on time: As per the University Rules and Regulations

C- Health and safety procedures: As per the University Rules and Regulations

D- Honesty policy regarding cheating, plagiarism, misbehavior: As per the University Rules and Regulations

E- Grading policy: As per the University Rules and Regulations

F- Available university services that support achievement in the course:

28. References:

A- Required book(s), assigned reading and audio-visuals:

Main textbook: Lind, D. A., Marchal, W. G., & Wathen, S. A. (2012). *Statistical techniques in business & economics*. New York, NY: McGraw-Hill/Irwin,.15E

- PowerPoint slides loaded on course page

B- other books, materials, and media:

أ.د. شفيق العتوم، طرق الإحصاء: تطبيقات إقتصادية وإدارية بإستخدام SPSS، 2016

29. Additional information:

Name of the Instructor or the Course Coordinator: --Ms Ala' AlSamman	Signature:	Date: 20/09/2025
Name of the Head of Quality Assurance Committee/ Department	Signature:	Date:
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Name of the Head of Department	Signature:	Date:
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Name of the Head of Quality Assurance Committee/ School or Center	Signature:	Date:
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Name of the Dean or the Director	Signature:	Date:
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