جامعة كل الـعرب

<div style="border:1px solid">

Course Syllabus

Faculty of Arts and Science

Academic Department Basic Science and Humanities

Academic Year 2021 / 2022   Semester: Second

</div>

Course Title :	Probability and Statistics
Course No. :	1501212
Prerequisite :	None
Concurrent :	None
Department :	Basic Science and Humanities
Coordinator :	Dr. Eman Almuhur
Mode of Instruction	**Blended Learning** - 2 hours in-class (Synonym) learning - 1 hour online asynchronous learning using Edu-Gate

* Instructor:

Lecturer	Office Phone	Room No.	Office Hours	E-mail
Dr. Eman Almuhur	1113	2214	Sun-Tues-Thurs 1-2 Mon-Wed 9:30-11	E_almuhur@asu.edu.jo

Course Description

The course of probability and statistics will cover three major areas: descriptive statistics, axioms and theorems of probability, a collection of statistical methods for analyzing the types of data that are of common occurrence

Intended Learning Outcomes

Upon the completion of the course, this module should lead to the following learning outcomes:

جامعة كل الـعـرب

A. Knowledge and Understanding (Student should):

A1   Understand the basic concepts of descriptive statistics

A2   List the counting techniques and its application

A3   Study the axioms and theorems of probability

A4   Understand the conditional probability and Baye's theorem

A5   Study discrete probability distributions such as binomial distribution, Poisson distribution

A6   Study continuous distribution such as normal distribution, student's -t – distribution, chi-square distribution.

A7   Understand central limit theorem, the concepts of correlation coefficient, basic concepts of linear regression

B. Cognitive and Intellectual Skills (Student should):

B1   Describe data by tables and graphs

B2   Analyze and summarize bivariate data

B3   Compare between discrete and continuous distribution

B4   Analyze data and draw inferences from large samples

C. Subject Specific Skills (Student should):

C1   Implement solutions of descriptive statistics

C2   Implement solutions of Baye's theorem

C3   Implement solutions of binomial distribution and Poisson distribution

C4   Implement solutions of inferences about population parameters

D. Transferable Skills (Student should):

D1   Exams and quizzes

D2   Assignments

جامعة كل الـعرب

Program Learning Outcomes (PLOs):

1. ---
2. ---
3. ---
4. ---
5. ---

Course Learning Outcomes Alignment Matrix				
	CLO. 1	**CLO. 2**	**CLO. 3**	**CLO. 4**
PLO.1:	-	-	-	-
PLO 2:	-	-	-	-
PLO.3:	-	-	-	-
PLO.4:	-	-	-	-
PLO. 5	-	-	-	-

Course Contents and Schedule

Week	Day and Date	Topics to be covered	Method of instruction	CLOs	PLOs
1	Sun. 6/3/2022	**Basic concepts,** Data Classification	In-class lecture	**A1**	-
	Tues. 8/3/2022		In-class lecture		
	Thurs. 10/3/2022				
2	Sun. 13/3/2022	**Counting Techniques:** Product rule, Permutations, Combinations	In-class lecture	**A2 & D1**	-
	Tues. 15/3/2022		In-class lecture		
	Thurs. 17/3/2022				
3	Sun. 20/3/2022	**Theorems of probability** Conditional probability, Baye's theorem, Independence	In-class lecture	**A3, B3 & C2**	-
	Tues. 22/3/2022		In-class lecture		
	Thurs. 24/3/2022				
4	Sun. 27/3/2022	Random variable, probability density function, Mean, variance, standard deviation	In-class lecture	**A4, B3 & C3**	-
	Tues. 29/3/2022		In-class lecture		
	Thurs. 31/3/2022				
5	Sun. 3/4/2022	Bernoulli and	In-class lecture	**A5 & D1**	-

جامعة كل الــعرب

	Tues.5/4/2022	Binomial distributions, Poisson distribution	In-class lecture		
	Thurs. 7/4/2022				
6	Sun. 10/4/2022	Mean, variance, standard deviation, Normal distribution	In-class lecture	A6	-
	Tues.12/4/2022		In-class lecture		
	Thurs. 14/4/2022				
7	Sun. 17/4/2022	Standard normal distribution	In-class lecture	A6	-
	Tues. 19/4/2022		In-class lecture		
	Thurs. 21/4/2022				
8.	MID Term Exam				
9	Sun. 1/5/2022	Central limits theorem	In-class lecture	A6 & D2	
	Tues. 3/5/2022		Online (Asynchronous)		
	Thurs. 5/5/2022				
10	Sun. 8/5/2022	Proportion confidence interval for the mean, Variance proportion	In-class lecture	A7	-
	Tues. 10/5/2022		Online (Asynchronous)		
	Thurs. 12/5/2022				
11	Sun. 15/5/2022	test for the mean type I and type II error,	In-class lecture	A7 & B4	-
	Tues. 17/5/2022		Online (Asynchronous)		
	Thurs. 19/5/2022				
12	Sun. 22/5/2022	Pearsons correlation coefficient, Spearman's rank correlation coefficient	In-class lecture	A7 & D1	-
	Tues. 24/5/2022		Online (Asynchronous)		
	Thurs. 26/5/2022				
13	Sun. 29/5/2022	Linear regression	In-class lecture	A7	-
	Tues. 31/5/2022		Online (Asynchronous)		
	Thurs. 2/6/2022				
14	Sun. 5/6/2022	Classification of data, Constructing Frequency tables, Graphical representation of data	In-class lecture	A1, B1 & C1	-
	Tues. 7/6/2022		Online (Asynchronous)		
	Thurs. 9/6/2022				
15	Sun. 12/6/2022	Statistical measures of central tendency, Statistical measures of dispersion	Assignment	C4 & D2	-
	Tues. 14/6/2022		Online (Asynchronous)		
	Thurs. 16/6/2022				
16.	Final Exam				

جامعة كل الـعرب

Grading Plan and Assessment Tools

Assessment Tools	Weights	Due date
Mid-term	30%	-
Assignments	10%	-
Quizzes	20%	-
Inter active lectures	-	-
Group Work	-	-
Presentation	-	-
Reports	-	-
Project	-	-
Case-Study	-	-
Final Exam	40%	-

Supplementary Reading

Textbook:

1- Raqab.M, Awad. A, Azzam.M: Principles of Statistics, Fourth edition.

References:

1- Salim.S. D.and Abu-hweij: introduction to probability and statistics 2004. -

2- Richard A. Johnson: Statistics principles and methods second edition 2

3- Harold Larson: introduction to probability theory and statistical inference third edition

جامعة كل الـعـرب

Subject Coordinator	**Eman Almuhur**	**Signature:** -------------------------
Head of Curriculum Committee	**Husam Miqdad**	**Signature:** -------------------------
Department Head	**Husam Miqdad**	**Signature:** -------------------------
Faculty Dean	**Hadeel Alsaed**	**Signature:** -------------------------

Copy to:
- Department Head.
- Head of Curriculum Committee.
- Course File.