



كلية الصيدلة جامعة الزيتونة الأردنية
Faculty of Pharmacy
Al-Zaytoonah University of Jordan
" نحو تعليم صيدلاني متميز "

Toward Excellence in Pharmaceutical
Education

جامعة الزيتونة الأردنية
Al-Zaytoonah University of Jordan
كلية الصيدلة
Faculty of Pharmacy



"Tradition and Quality"

Detailed Course Description - Course Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-3.0E
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Faculty	Pharmacy	Department	Pharmacy
Course number	0201556	Course title	Clinical Biostatistics
Number of credit hours	3	Pre-requisite/co-requisite	Pharmacology III (0201433)

Brief course description

This course aims to provide an introduction to basic statistical concepts as they apply to the health sciences. Specific topics include tools for describing central tendency and dispersion of data, probability concepts, statistical hypothesis testing and its application to group comparisons, methods of sampling, and various statistical measures.

Course goals and learning outcomes	
Goal 1	To teach students common procedures for describing data
Learning outcomes	1.1 To understand how data can be appropriately organized and displayed. 1.2 To calculate and interpret measures of central tendency, such as the mean, median, and mode. 1.3 To calculate and interpret measures of dispersion, such as the range, variance, and standard deviation.
Goal 2	To introduce students to basic concepts of probability
Learning outcomes	2.1 To understand the properties of probability and probability rules. 2.2 To be able to calculate the probability of an event. 2.3 To use probability distributions to calculate probabilities in real-world problems.
Goal 3	To provide students with the tools to perform statistical inference
Learning outcomes	3.1 To calculate confidence intervals and learn how to interpret them. 3.2 To understand how to carry out a hypothesis test. 3.3 To learn how to calculate and interpret p values.
Textbook	Biostatistics: A Foundation for Analysis in the Health Sciences, 10 th Ed., Wayne W. Daniel and Chad L. Cross, 2013, Wiley & Sons, Inc.
Supplementary references	--



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Course timeline				
Week	Number of hours	Course topics	Pages (textbook)	Notes
01	1) Introduction to Biostatistics	Ch. 1	
	1	) Basic statistical concepts	
	1	) Design of experiments	
02	1) The frequency distribution	Ch. 2	
	1	) Measures of central tendency	
	1	) Skewness	
03	1) Measures of dispersion	Ch. 2	
	1	) Variance vs. standard deviation	
	1	) Kurtosis	
04	1) Basic Probability Concepts	Ch. 3	
	1	) Calculating probability of an event	
	1	) Sensitivity and specificity	
05	1) Probability Distributions of discrete variables	Ch. 4	
	1	) The binomial distribution	
	1			
06	1	First Exam		
07	1) The continuous probability distribution	Ch. 4	
	1	) The normal distribution	
	1	) Normal distribution applications	
08	1) Sampling distributions	Ch. 5	
	1	) Distribution of the sample mean	
	1	) Distribution of the difference between two sample means	
09	1) Confidence intervals for a population mean	Ch. 6	
	1	) The t-distribution	
	1	) Confidence interval for the difference between two population means	
10	1	Second Exam		
11	1) Hypothesis testing steps	Ch. 7	
	1	) Stating null and alternative hypotheses	
	1	) Level of significance	
12	1) Hypothesis testing for a single population mean	Ch. 7	
	1	) Hypothesis testing for the difference between two population means	
	1			
13	1) Introduction to regression	Ch. 9	
	1) Simple linear regression		
	1) Regression analysis		



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14	1) Introduction to correlation	Ch. 9	
	1) Calculating the coefficient of determination		
	1	) Calculating correlations among variables		
15	1	Final Exam		

Theoretical course evaluation methods and weight	Homework/ classwork = 10% First exam = 20% Second exam = 20% Final exam = 50%	Practical (clinical) course evaluation methods	N/A
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Approved by head of department		Date of approval	
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Extra information (to be updated every semester by corresponding faculty member)

Name of teacher	Dr. Suhair Sunoqrot	Office Number	226
Phone number (extension)	312	Email	suhair.sunoqrot@zuj.edu.jo
Office hours	Sunday, Tuesday, Thursday – 11:00 – 12:00 Monday, Wednesday – 10:00 – 11:00		