



Jordan University of Science and Technology
Faculty of Science & Arts
Mathematics Department

HSS132MATH Elements Of Biostatistics

Second Semester 2023-2024

Course Catalog

3 Credit Hours. 3 Credit Hours. Biological data, descriptive statistics, probability, axioms and rules of probability, conditional probability, Bayes theorem and independence, discrete and continuous random variables, Binomial and normal distributions, Sampling distribution point and interval estimation, hypothesis testing, types of error, tests for one and two means, test for one proportion, categorical data analysis, incidence and prevalence, contingency tables; diagnostic tests; false positive, false negative; odds ratio and relative risk, specificity and sensitivity, chi-square test of independence, life tables, correlation and simple regression.

Teaching Method: On Campus

Text Book

Title	BIOSTATISTICS A Foundation for Analysis in the Health Sciences
Author(s)	WAYNE W. DANIEL, PH.D.
Edition	10th Edition
Short Name	Text Book
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #1	Fundamentals of Biostatistics,	B. Rosner	8th Edition	
Ref# 2	The Analysis of Biological Data	Michael C. Whitlock, Dolph Schluter	2nd Edition	

Instructor

Name	Dr. HANAN HAMMOURI
Office Location	Ph4 level 0

Office Hours	Mon : 12:00 - 13:00 Tue : 12:30 - 14:30 Wed : 12:00 - 13:00 Thu : 12:30 - 14:30
Email	hmhammouri@just.edu.jo

Class Schedule & Room
<p>Section 1: Lecture Time: Sun, Tue, Thu : 11:30 - 12:30 Room: NF45</p> <p>Section 2: Lecture Time: Mon, Wed : 13:00 - 14:30 Room: SF05</p>

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Introduction to biostatistics & data analysis sample space, events, counting sample points, probability of an event, additive rules	
Week 2	Conditional probability, independent events, multiplicative rules	
Week 3	Concept of a random variable, discrete probability distributions, continuous probability distributions	
Week 4	Mean of a random variable, variance, means & variances of a linear combination of random variables	
Week 5	Binomial distribution, Normal distribution, areas under the normal curve, applications of both	
Week 6	Random sampling, some important statistics	
Week 7	Sampling distributions, the sampling distribution of means	
Week 8	Introduction to estimation, statistical inference, estimating the mean, standard error	
Week 9	Estimating the difference between two means, estimating a proportion,	
Week 10	Statistical hypotheses, testing a statistical hypothesis	
Week 11	One- and two-tailed tests, tests concerning a single mean, tests on a single mean when the variance is unknown	
Weeks 12, 13	Categorical data analysis, odds ratio and relative risk	
Week 14	Contingency tables; diagnostic tests; false positive, false negative, specificity and sensitivity,	
Weeks 15, 16	Simple linear regression and correlation	

Relationship to Program Student Outcomes (Out of 100%)					
SLO1(K1S1)	SLO2(S23C1)	SLO3(C24)	SLO4(C3)	SLO5(C4)	SLO6(S2C3)

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