



Jordan University of Science and Technology
Faculty of Agriculture
Plant Production Department

PP213 Introduction To Biostatistics
First Semester 2020-2021

Course Catalog
3 Credit Hours. t3 Credit Hours: present a range of basic statistical methods applied to agriculture, including descriptive statistics, statistical inference, hypothesis testing, sampling, introduction to analysis of variance, and simple linear regression.

Text Book	
Title	Biostatistics: A foundation for analysis in the health sciences
Author(s)	WAYNE W. DANIEL, PH.D.: CHAD L. CROSS, PH.D., PSTAT R
Edition	10th Edition
Short Name	Reference # 1
Other Information	This 10th edition of Biostatistics: A Foundation for Analysis in the Health Sciences was prepared with the objective of appealing to a wide audience. Previous editions of the book have been used by the authors and their colleagues in a variety of contexts

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref # 2	Statistics for Life Sciences	Mayra L. Samuels and Jeffrey A. Witmer	3rd Edition	atistics for the Life Sciences presents the key concepts of statistics as applied to the life sciences, while incorporating tools and themes of modern data analysis. The book emphasizes interpretation of results using real data, which facilitates an understanding of statistics and data through the use of graphical data and analysis.

Instructor	
Name	Dr. Zakaria Al-Ajlouni
Office Location	-
Office Hours	
Email	ziajlouni@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Tue : 08:30 - 10:00 Room: منصة الكترونية

Prerequisites		
Line Number	Course Name	Prerequisite Type
901021	MATH102A Calculus 2 (For Biological Sciences)	Prerequisite / Pass

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Introduction, Examples and overview,	From Reference # 1, From Ref # 2
Week 2	Description of Population and samples	From Reference # 1, From Ref # 2
Week 3	The role of random sampling in statistics	From Reference # 1, From Ref # 2
Week 4	The limiting frequency definition of probability	From Reference # 1
Week 5	The use of probability trees and The concept of random variables	From Reference # 1
Week 6	? Rules for finding means and standard deviations of random variable ? The use of binomial distribution	From Reference # 1
Weeks 7, 8	Introduce the concept of the standard error and compare it with the standard deviation and Learn how to make and interpret confidence intervals for proportions	From Reference # 1
Week 9	Learn how to determine the sample size needed in order to achieve a desired level of accuracy and Learn how to conduct a two ?sample t test to compare sample means	From Reference # 1

Week 10	Learn how to interpret a P-value and Discuss the concept of significant level, effect size and power.	From Reference # 1
Week 11	Consider the conditions of under which the t test is valid and learn how to conduct a chi square goodness-of-fit test	From Reference # 1
Week 12	Discuss independent and association for categorical variables and learn how to test for independence between two categorical variables	From Reference # 1
Week 13	Study the relation ship between the variables and Construct and interpret a regression model	From Reference # 1
Week 14	Learn how to test whether a regression relationship is statically significant	From Reference # 1
Week 15	Learn how the correlation coefficient is calculated and	From Reference # 1
	Learn how regression ideas can be extended to multiple regression.	From Reference # 1

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Better understanding of the relationship between a population and a sample, and the random nature of various statistical tests. [1PLO1]	30%	
Summarizing and organizing data [1PLO1]	10%	
Students will be comfortable in relating various statistical techniques learned in the class to real problems. [1PLO1]	30%	
Students will be comfortable in Applying various statistical analysis techniques and interpretation [1PLO1]	30%	

Relationship to Program Student Outcomes (Out of 100%)						
PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
100						

Evaluation	
Assessment Tool	Weight
First Exam	25%
Second Exam	25%
Activities, and Quizzes	10%

Final Exam	40%
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Policy	
Exams	All exams are closed book and notes. The final exam is comprehensive (covering all teaching materials). Incomplete exams need approval from the department chair and the faculty dean
Cheating	Prohibited; and in case of cheating the student will be subject to punishment in according with the university regulations
Attendance	Students are expected to attend all class meetings regularly. If the student is absent for more than 20% of the course, the student will be prevented from taking all subsequent exams and assigned an F (Failure) grade in the course (deprived by absence). This maximum includes both excused and unexcused absences.
Participation	Participation is highly encouraged
Withdraw	The student can withdraw from the course in accordance with the timeline defined by the university regulations

Date Printed: 2020-11-21