Jordan University of Science and Technology

Faculty of Applied Medical Sciences

Occupational Therapy Department

O.T732 Statistical Analysis In Health Sciences
Second Semester 2025-2026

Course Catalog
3 Credit Hours. This graduate-level course in Health Sciences equips students with the statistical foundations essential for advancing scholarly inquiry and evidence-based practice in health and human services. Grounded in the belief that professional practice must be informed by scientific research, the course emphasizes translating complex scientific questions into testable hypotheses, developing structured analysis plans, and applying appropriate statistical methods. Students will critically interpret and evaluate published literature, with particular attention to the quantitative basis of health research. While selected univariate and bivariate parametric techniques are introduced, the primary focus is on multivariate statistical analyses, preparing students to assess research involving multiple variables and to evaluate the significance and impact of public health and health-related interventions.
Teaching Method: On Campus

Text Book	
Title	Foundations of clinical research: Applications to evidence-based practice
Author(s)	Portney, L. G.
Edition	4th Edition
Short Name	Textbook #1
Other Information	Portney, L. G. (2020). Foundations of clinical research: Applications to evidence-based practice (4th ed.). F.A. Davis Company. ISBN-13: 978-0803661134

Course References

Short name	Book name	Author(s)	Edition	Other Information
Textbook #2	Statistical Methods for Psychology	David C. Howell	8th Edition	Howell, D. C. (2013). Statistical methods for psychology (8th ed.). Wadsworth. ISBN-13: 978-0357670996

Instructor	
Name	**Dr. QUSSAI OBIEDAT**
Office Location	-

Office Hours	Mon : 12:00 - 13:30 Tue : 11:00 - 12:00 Wed : 12:00 - 13:30 Thu : 10:00 - 12:00
Email	qmobiedat4@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Thu : 12:00 - 15:00 Room: M3303

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	Course Introduction	**CH 1** From **Textbook #2**
Week 2	Descriptive statistics	**CH 22** From **Textbook #1**
Week 3	Sampling distributions and Hypothesis testing	**CH 23** From **Textbook #1**, **CH 4** From **Textbook #2**
Week 4	Hypothesis tests applied to one or two means	**CH 24** From **Textbook #1**, **CH 7** From **Textbook #2**
Week 5	Analysis of Variance (one-way ANOVA)	**CH 25** From **Textbook #1**
Week 6	Analysis of Variance (two-way ANOVA)	**CH 25** From **Textbook #1**
Week 7	Bivariate Correlation	**CH 29** From **Textbook #1**
Week 8	Simple Linear Regression	**CH 30** From **Textbook #1**
Week 9	Multiple Regression	**CH 30** From **Textbook #1**
Week 10	Effect Size & Power	**CH 8** From **Textbook #2**
Week 11	Non-Parametric Methods	**CH 23** From **Textbook #1**
Week 12	Logistic Regression	**CH 30** From **Textbook #1**
Week 13	ANCOVA & MANOVA	
Week 14	Repeated Measures ANOVA	**CH 25** From **Textbook #1**

Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Identify appropriate statistical methods for analyzing research studies by matching study designs and research questions with suitable univariate, bivariate, and multivariate parametric analyses.	20%	

Critically evaluate the credibility of statistical analyses reported in published literature, including univariate, bivariate, and multivariate approaches, to determine the validity and reliability of research findings	20%	
Interpret computer-generated statistical output from a range of parametric analyses, demonstrating the ability to extract meaningful results and assess their implications for health sciences research.	20%	
Apply foundational statistical knowledge to real-world research problems, recognizing common challenges and limitations that arise when analytic methods are used to study complex human phenomena.	20%	
Develop structured analysis plans that integrate hypothesis formulation, method selection, and interpretation strategies, supporting evidence-based decision-making in health and human services.	20%	

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