



Course Plan (Syllabus)

First: Course Information

Faculty: Nursing	
Department: Community and Mental Health Nursing	Program: Master
Academic Year: 2024/2025	Semester: Second

Course No.: 0801705	Course Title: Data Management and Statistical Analysis		
Credit Hours: 3 hours	Theoretical: 3 hours		Practical: 0 hour
Prerequisite No.: None	Prerequisite Title: None		
Section No.: 1	Lecture Day(s):	<input type="checkbox"/> Sun <input checked="" type="checkbox"/> Tue <input type="checkbox"/> Thu <input type="checkbox"/> Fri <input type="checkbox"/> Sat <input type="checkbox"/> Mon <input type="checkbox"/> Wed	Lecture Time: 16:30-19:30
Level in JNQF	Level 9	Notional Hours JNQF 126	
Type of Course	Obligatory Specialization		
Type of Learning	Online Learning (1 Synchronous +1 Asynchronous)		

Second: Instructor's / Coordinator's Information

Course Instructor	Name: <i>Dr. Anas Khalifeh</i>		Academic Rank: Assistant Professor				
	Office No.: 271D		Ext. No.: 1771		Email: <i>akhalifeh@zu.edu.jo</i>		
	Office Hours	Sun 11-12 12-1	Mon 12-1 1-2	Tues 10-11 choose	Wed 1-2 choose	Thu choose choose	Sat 2-3 choose
Course Coordinator	Name: <i>Dr. Anas Khalifeh</i>		Academic Rank: Assistant Professor				
	Office No.: 271D		Ext. No.: 1771		Email: <i>akhalifeh@zu.edu.jo</i>		

Third: Course Description

The Data Management and Statistical Analysis course is designed to equip Master in Nursing students with the necessary skills and knowledge to effectively manage, analyze, and interpret data using the Statistical Package for the Social Sciences (SPSS). In the evolving landscape of healthcare, data-driven decision-making is crucial for evidence-based practice, quality improvement initiatives, and research in nursing.

Throughout this course, students will delve into the fundamentals of data management, including data entry, cleaning, and manipulation techniques specific to nursing datasets. They will learn to organize and structure data efficiently to ensure accuracy and reliability in subsequent statistical



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analyses.

A significant focus of the course will be on statistical analysis methodologies commonly used in nursing research and practice. Students will explore descriptive statistics, inferential statistics, and multivariate analysis techniques applicable to various research designs and healthcare contexts. Emphasis will be placed on understanding the interpretation and implications of statistical findings in nursing research and clinical decision-making.

Moreover, the course will provide hands-on experience with SPSS, a widely used software package for statistical analysis in the social sciences, including nursing. Through practical exercises and assignments, students will gain proficiency in using SPSS to perform a range of statistical analyses, from basic descriptive statistics to advanced techniques such as regression analysis and ANOVA.

Fourth: Course Objectives

By the end of the course, students will be able to:

1. Understand the principles and importance of data management in nursing research and practice.
2. Demonstrate proficiency in data entry, cleaning, and manipulation techniques specific to nursing datasets.
3. Apply descriptive statistical techniques to summarize and describe nursing data effectively.
4. Utilize inferential statistical methods to analyze relationships, differences, and associations within nursing datasets.
5. Explore multivariate statistical techniques for analyzing complex nursing research questions and healthcare outcomes.
6. Gain practical experience in using the Statistical Package for the Social Sciences (SPSS) software for data analysis.
7. Interpret and critically evaluate statistical findings in the context of nursing research, evidence-based practice, and healthcare decision-making.
8. Communicate statistical results effectively through written reports and presentations tailored to nursing audiences.
9. Apply ethical principles and considerations in the management and analysis of nursing data.
10. Develop foundational skills necessary for conducting rigorous nursing research and contributing to evidence-based practice in diverse healthcare settings.

Fifth: Learning Outcomes

<i>Level descriptor according to (JNQF) *</i>	CILOs Code	CILOs	<i>Associated PILOs Code</i> <i>Choose one PILO for each CILO**</i>	Assessment Methods	Scores out of 100
Knowledge	K1	Understand the principles of data management and statistical analysis within the context of healthcare systems and nursing practice.	PLO: 2	Quizzes Assignments & Homework Final Exam	11





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Knowledge	K2	Describe various statistical methods and techniques commonly used in healthcare research and quality improvement initiatives.	PLO: 1	Quizzes Assignments & Homework Final Exam	11
Knowledge	K3	Acquire an awareness of ethical considerations and standards relevant to data management, statistical analysis, and the dissemination of research findings in nursing practice.	PLO: 6	Quizzes Assignments & Homework Final Exam	10
Skills	S1	Utilize appropriate software tools by demonstrating proficiency in manage and analysis health care data sets.	PLO: 5	Quizzes Assignments & Homework Final Exam	12
Skills	S2	Interpret statistical results accurately and effectively communicate findings to diverse stakeholders.	PLO: 3	Quizzes Assignments & Homework Final Exam	13
Skills	S3	Utilize statistical techniques to evaluate the effectiveness of health care interventions and outcomes.	PLO: 4	Quizzes Assignments & Homework Final Exam	11
Competencies	C1	Demonstrate accountability and responsibility in maintaining the integrity and confidentiality of health care data throughout the data management process.	PLO: 6	Quizzes Assignments & Homework Final Exam	10
Competencies	C2	Participate in developing and implementing evidence-based data management and statistical analysis strategies to enhance health care delivery and patient outcomes.	PLO: 5	Quizzes Assignments & Homework Final Exam	12
Competencies	C3	Apply strategic thinking and advanced managerial skills to analyze data, identify trends, and make evidence-based recommendations for improving efficiencies and quality within health care organizations.	PLO: 2	Quizzes Assignments & Homework Final Exam	10

* <https://jnqf.heac.org/jo/?v=5.20.10.28.2&url=ar/Manuals>; ** Program Outcome Competencies (Learning outcomes) Code (PILOS); CILOs: Course Intended Learning Outcomes



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Sixth: Learning Resources

Main Reference: Practical Biostatistics for Medical and Health Sciences

Author: Saneii and Doosti

Edition: 1st

Publication Year: 2024

Additional resources:

- Daniel, W. W., & Cross, C. L. (2019). *Biostatistics: A foundation for analysis in the Health Sciences*. Wiley.
- Grove, S. K., Ciper, D. J. (2024). *Statistics for Nursing Research (4th ed.)*. United States: Elsevier Health Sciences.
- Heavey, E. (2019). *Statistics for nursing: A practical approach*. Jones & Bartlett Publishers.
- Kellar S.P & Kelvin E.A (2013). *Munro's Statistical Methods for Health Care Research (6th edition)*. Lippincott Williams & Wilkins, New York.
- Kim, M., Mallory, C., & Valerio, T. D. (2022). *Statistics for evidence-based practice in nursing*. Jones & Bartlett Learning.
- Pallant, J. (2020). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS (7th ed.)*. Open University Press, McGraw-Hill Education.
- Polit, D., & Beck, C. (2017). *Nursing Research: Generating and Assessing Evidence for Nursing Practice (10th ed.)*. Philadelphia: Lippincott Williams & Wilkins.
- Wagner, W. E. (2020). *Using IBM SPSS statistics for research methods and social science statistics*. SAGE Publications, Inc.

Teaching Context

☐ Classroom ☐ Laboratory ☐ Workshop ☒ MS Teams ☒ Moodle

Seventh: Course Structure

Lecture Date	Topics	CILOs Codes	Teaching Procedures	Teaching Methods	References
2025/03/04	<ul style="list-style-type: none"> • Orientation and introduction to the course, resources and materials. • Introduction to statistics and its use in health care. • Types of Variables: (nominal, ordinal, interval, ratio) 	K1, K2, K3 S1, S2	Synchronous	Self-study activities, Group discussion, Lecturing, Critical analysis of learning material and eLearning.	Course Syllabus (Ch. 1)
2025/03/11	Videos related to topic discussed Article-Types of Variables (Assignment 1)	K1, K2, K3 S1, S2	Asynchronous	Self-study activities, Group discussion	Asynchronized Activity Plan
2025/03/18	<ul style="list-style-type: none"> • Common Terms (dataset, population sample, parameter, statistic). 	K1, K2, K3 S1, S2, S3	Synchronous	Self-study activities, Group discussion, Lecturing, Critical	(Ch.1,2,3)





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	<ul style="list-style-type: none"> Normal Distribution. Key Principles of Statistical Inference Building Blocks for Using Inferential Statistics 	C1, C2, C3		analysis of learning material and eLearning.	
2025/03/25	Videos related to topic discussed. Discussions on Team Platform- Principles of Statistical Inference and Blocks for Using Inferential Statistics (Quiz 1)	K1, K2, K3 S1, S2, S3 C1, C2, C3	Asynchronous	Self-study activities, Group discussion	Asynchronized Activity Plan
2025/04/01	Holiday				
2025/04/08	<ul style="list-style-type: none"> Introduction to SPSS for Windows Data coding and data entry Starting an SPSS Session Creating a New Dataset Using an Existing Dataset SPSS application. Univariate (descriptive) Statistics Range Measures of Central Tendency and Dispersion Means, medians, modes Variance, standard deviation. SPSS application. 	K1, K2, K3 S1, S2, S3 C1, C2, C3	Synchronous	Self-study activities, Group discussion, Lecturing, Critical analysis of learning material and eLearning.	(Ch.2,3)
2025/04/15	Videos related to topic discussed Create SPSS Dataset and Produce Descriptive Statistics (Assignment 2)	K1, K2, K3 S1, S2, S3 C1, C2, C3	Asynchronous	Self-study activities, Group discussion	Asynchronized Activity Plan
2025/04/22	<ul style="list-style-type: none"> Organizing and presenting data. Sensitivity, Specificity, Predictive Value, and Efficiency Shapes of Distributions Testing Hypotheses 	K1, K2, K3 S1, S2, S3 C1, C2, C3	Synchronous	Self-study activities, Group discussion, Lecturing, Critical analysis of learning material and eLearning.	(Ch.2,3)
2025/04/29	Videos related to topic discussed. Data Organization, Distribution Analysis, and Hypothesis Testing in Healthcare Research (Assignment 3)	K1, K2, K3 S1, S2, S3 C1, C2, C3	Asynchronous	Self-study activities, Group discussion	Asynchronized Activity Plan
2025/05/06	<ul style="list-style-type: none"> Inferential Statistics: Finding 	K1, K2, K3	Synchronous	Self-study activities, Group discussion,	(Ch.16,17,18)



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	<ul style="list-style-type: none"> Comparing the Means of Two Unrelated and related Groups. Comparing the Means of Three or More Unrelated Groups. 	S1, S2, S3 C1, C2, C3		Lecturing, Critical analysis of learning material and eLearning.	
2025/05/13	Videos related to topic discussed Inferential Statistics: t-test & ANOVA (Quiz 2)	K1, K2, K3 S1, S2, S3 C1, C2, C3	Asynchronous	Self-study activities, Group discussion	Asynchronized Activity Plan
2025/05/20	Measuring the Association of Two Variables.	K1, K2, K3 S1, S2, S3 C1, C2, C3	Synchronous	Self-study activities, Group discussion, Lecturing, Critical analysis of learning material and eLearning.	(Ch.19,20,22)
2025/05/27	Videos related to topic discussed Inferential Statistics: Association of Two Variables. (Assignment 4)	K1, K2, K3 S1, S2, S3 C1, C2, C3	Asynchronous	Self-study activities, Group discussion	Asynchronized Activity Plan
2025/06/03	Holiday				
2025/06/10	Model Building & prediction	K1, K2, K3 S1, S2, S3 C1, C2, C3	Synchronous	Self-study activities, Group discussion, Lecturing, Critical analysis of learning material and eLearning.	(Ch.29,30)
Final Exams: 15 to 25/6/2025					

Eighth: Assessment Methods

Assessment Method	Score Identified for each Assessment	Specific Course Output to be Assessed*								
		P2/K1	P1/K2	P6/K3	P5/S1	P3/S2	P4/S3	P6/C1	P5/C2	P2/C3
Asynchronous Activities	30%	3	3	3	4	4	3	3	4	3
Quizzes	30%	4	4	3	3	3	3	3	4	3
Final Exam	40%	4	4	4	5	6	5	4	4	4
Total out of 100	100	32			36			32		

* Refer to document ([Guidelines-for-Nursing-Programs-Accreditation-at-Jordanian-Universities](#))



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Ninth: Course Policies

All course policies apply across **all teaching modes**, including **online, blended, and face-to-face learning**.

- ☐ **Punctuality:** Attend on time; late work may lose marks.
- ☐ **Participation:** Engage in discussions, group work, and assignments.
- ☐ **Attendance & Exams:** Mandatory attendance; valid excuse required for absences.
- ☐ **Academic Integrity:** No cheating, plagiarism, or unauthorized collaboration.
- ☐ **Ethical Conduct:** Respectful behavior is required online and offline.
- ☐ **Technology Use:** Follow platform rules; no misuse of digital tools.

Approval	Name	Date	Signature
Head of Department	Dr. Islam Al-Oweidat	2025/03/02	
Faculty Dean	Dr. Ahmed Rayan	2025/03/02	