

# Course Specification

## (Postgraduate Programs)

<b>Course Title:</b> Biostatistics
<b>Course Code:</b> NRS 613
<b>Program:</b> Master of Science in Nursing (MSN)
<b>Department:</b> CAMS
<b>College:</b> College of Nursing
<b>Institution:</b> Majmaah University
<b>Version:</b> <b>TPG-153 2024</b>
<b>Last Revision Date:</b> 5-9-2024



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## A. General information about the course:

### 1. Course Identification:

1. Credit hours: (4 hours (2+2) )

### 2. Course type

A.  University  College  Department  Track

B.  Required  Elective

3. Level/year at which this course is offered: (1<sup>st</sup> Level, 1<sup>st</sup> Year)

### 4. Course General Description:

The emphasis of this course is on the nature and characteristics of the most commonly used statistical techniques (descriptive statistics, correlation and linear regression, factor analysis, and elementary hypothesis testing), and their applicability to specific health care problems within the context of field. Students will develop skills and knowledge in the use of computing software and to reinforce learning through assignments, including the analysis of data and interpret computer output.

### 5. Pre-requirements for this course (if any):

None

### 6. Pre-requirements for this course (if any):

None

### 7. Course Main Objective(s):

Upon completion of this course, the student will be able to:

1. Identify and test assumptions for statistical tests.
2. Select, conduct and report appropriate statistics to test hypotheses.
3. Create tables to report findings.
4. Compare the utility of multivariate statistical methods in transcultural health research.
5. Interpret reported statistical findings.

### 2. Teaching Mode: (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	23	50%
2	E-learning	22	50%
3	Hybrid <ul style="list-style-type: none"> <li>• Traditional classroom</li> </ul>		





No	Mode of Instruction	Contact Hours	Percentage
	• E-learning		
4	Distance learning		

### 3. Contact Hours: (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	23
2.	Laboratory/Studio	22
3.	Field	
4.	Tutorial	
5.	Others (specify).....	
	<b>Total</b>	<b>45</b>

## B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods:

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge and understanding</b>			
1.1	Define the fundamental concepts and analysis methods in statistics used by health science researchers	K1	Lecture discussion	Practical examination, group project, assignment
1.2	Describe and test statistical hypotheses in an appropriate manner	K1	Lecture discussion	Practical examination, group project, assignment
...				
<b>2.0</b>	<b>Skills</b>			
2.1	Analyze data appropriate to the particular study design	S2	Lecture discussion	Practical examination, group project and presentation, assignment



Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
2.2	Classify and appropriately display and summaries different types of data	S2	Lecture discussion	Practical examination, group project and presentation
...				
<b>3.0</b>	<b>Values, autonomy, and responsibility</b>			
3.1	Use SPSS to perform all of the above analyses and to manage data	V3	Lecture discussion	Practical examination, group project and presentation
3.2				
...				

### C. Course Content:

No	List of Topics	Contact Hours
1.	Introduction to this course, SPSS, measurement, and statistics	6
2.	Frequency displays in tables and in graphs	3
3.	Samples, populations, and hypothesis testing	3
4.	Describing one or more groups	3
5.	Comparing proportions	3
6.	One and two-group comparisons	3
7.	Matched group comparisons	3
8.	Using ANOVA to compare more than two groups at once	9
9.	More complicated ANOVA models	6
10.	Correlation and simple linear regression	6
<b>Total</b>		<b>45</b>

### D. Students Assessment Activities:

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Group Project focusing on formulating research hypothesis, data collection, and statistical analysis of results	13 <sup>th</sup>	10%
2.	Midterm exam	8 <sup>th</sup>	30%
3.	Final Practical Examination (Computer Lab)	16 <sup>th</sup>	30%





No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
4.	Final Examination	15 <sup>th</sup>	30%

\*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

## E. Learning Resources and Facilities:

### 1. References and Learning Resources:

<b>Essential References</b>	Essential Biostatistics: A Nonmathematical Approach 1st Edition
<b>Supportive References</b>	
<b>Electronic Materials</b>	<ul style="list-style-type: none"> <li>• <a href="http://www.sdl.edu.sa">www.sdl.edu.sa</a></li> <li>• <a href="http://www.findarticles.com">www.findarticles.com</a></li> <li>• <a href="http://www.emedicine.com">www.emedicine.com</a></li> </ul>
<b>Other Learning Materials</b>	A educational CDs are available in the laboratory

### 2. Educational and Research Facilities and Equipment Required:

Items	Resources
<b>facilities</b> (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom with capacity of 30-students. Computer Lab of Mathematics Department
<b>Technology equipment</b> (Projector, smart board, software)	- A lab with adequate materials and manikins, equipped with smart or active board - Mathematical software packages like ANOVA, SPSS and Python
<b>Other equipment</b> (Depending on the nature of the specialty)	

## F. Assessment of Course Quality:

Assessment Areas/Issues	Assessor	Assessment Methods
<b>Effectiveness of teaching</b>	Students/internal committee	Direct (Students evaluation electronically organized by Deanship of registration and admission)/ Verification of students' papers
<b>Effectiveness of students' assessment</b>	Staff members (Peer Reviewer)	Indirect (Frequent meetings consultation among the teaching staffs)



Assessment Areas/Issues	Assessor	Assessment Methods
Quality of learning resources	Staff members (course coordinators)	Direct (Meeting between course coordinators and the tutors)
The extent to which CLOs have been achieved		
Other		

**Assessor** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

### G. Specification Approval Data:

<b>COUNCIL /COMMITTEE</b>	ACADEMIC COUNCIL MEETING
<b>REFERENCE NO.</b>	DEPARTMENT MEETING MINUTES NO 4
<b>DATE</b>	5/9/2024

