Course Specification
Student Version

Course Title:	Biostatistics
Course Code:	BIOS 101
Department:	Common Sciences
Program :	Bachelor of Medicine & Surgery
College:	Vision College in Riyadh
Institution:	Vision College in Riyadh
Revised:	July 2025

A. Course Identification

1. Credit hours: 2 (2+0+0)
2. Level/year at which this course is offered: Level 1/Year 1
3. Pre-requisites for this course (if any): None
4. Co-requisites for this course (if any): None

B. Teaching Methods

1	Interactive lectures
2	Assignments

C. Course Description and Main objective

1. Course Description

This course provide students with a basic understanding of biostatistics and Understanding concepts and rational for various methods with use of statistical software (such as Excel, SPSS).

2. Course Main Objective

The main objective of this course is to give student the ways to calculate and interpret mean, median, mode, ranges, variance, standard deviation and confidence intervals.

3. Course Objectives :

At the end of this course the students will be able to :

- Explain the importance of studying biostatistics in the nursing field.
- Discus the theory of Probability in the nursing sciences.
- Conduct descriptive and inferential statistical analysis using statistical software programs.
- Differentiate and implement qualitative, quantitative, and triangulation research approaches.
- Practice teamwork and professional collaboration.

D. Course Content

No.	List of Topics
1	Introduction
2	Types of Data : quantitative – qualitative (Nominal Data , Ordinal Data, Ranked Data, Discrete Data, Continuous Data)
3	Types of Data : quantitative – qualitative (Nominal Data , Ordinal Data, Ranked Data, Discrete Data, Continuous Data)
4	Tables: Frequency Distributions, Relative Frequency. Graphs : Bar Charts , Histograms , Frequency Polygons, One- Way Scatter plots, Box Plots.

5	Measures of Central Tendency : Mean , Median ,Mode and The relationship between Measures of Central Tendency
6	Measures of Dispersion: Range, Interquartile Range, Variance and Standard Deviation. Coefficient of Variation
7	Probability: Operations on Events and Probability, Conditional Probability.
8	Theoretical Probability Distributions : Probability Distributions The Binomial Distribution The Poisson Distribution (The Normal Distribution)
9	Sampling Distribution of the Mean: Sampling Distributions
10	Hypothesis Testing: General Concepts, Two-Sided Tests of Hypotheses One-Sided Tests of Hypotheses
11	Independent Samples: Equal Variances. Unequal Variances, Inference On Proportions: Comparison of Two Proportions
12	Correlation: Pearson's Correlation Coefficient, Spearman's Rank Correlation Coefficient.
13	Simple Linear Regression, Regression Concepts, Population Regression Line
14	Types of Error. Comparison of Two Means: Paired Samples

E. Assessment tools

#	Assessment task	Time	Percentage of Total Assessment Score
1	Quizzes	First Quiz & Second Quiz	20% (each 10%)
2	Assignments	During the Semester	10 %
3	Mid-term	According to midterm exam timetable	30%
4	Final	According to final exam timetable	40%
	Total		**100%**

F. Learning Resources

Required Textbooks	Biostatistics (101 BIOS) – Vision college
Essential Reference Material	Vision college library,King Fahd library
Electronic Material	https://elearning.vision.edu.sa/course/view.php?id=167