

Al-Zahrawi University



College of Pharmacy

**Higher Education Institution Performance Review
(Academic Program Review)**

This course description provides a summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether he has made the most of the learning opportunities available and must be linked to the program description.

1. Educational Institution	Al-Zahrawi University
2. University Department / Center	Pharmacy College
3. Course Name / Code	Mathematics and biostatistics
4. Programs in which it is included	Bachelor in Pharmacy
5. Available Forms of Attendance	Daily Attendance
6. Semester / Year	First Semester – 1st Grade
7. Total Number of Study Hours	30 hours (2 hours per week)
8. Date of preparing this description	2025-2026
9. Course Objectives : The program is for one course in which the student reviews the basics of mathematics such as solving simple equations and percentage applications. The student also learns the basics of biostatistics and how to describe and analyze clinical data.	
10. Learning Outcomes, Teaching and Learning Methods, and Evaluation	

A. Knowledge and Understanding

- 1. Review the basics of mathematics and its applications in pharmacy.**
- 2. Understand the basics of statistics.**
- 3. Learn how to analyze and describe data.**
- 4. Learn how to do a biostatistical screening.**

B. Subject-Specific Skills

- 1. Gain skill in calculating doses and how to dilute them.**
- 2. Gain skill in designing clinical trials.**
- 3. Gain skill in describing data.**
- 4. Gain skill in analyzing data.**

Teaching and Learning Methods

- 1. Show pictures and diagrams.**
- 2. Thinking and discussion method.**
- 3. Learning through videos and visual aids.**
- 4. Making acting scenes.**
- 5. Exploratory thinking**

C. Evaluation Methods

- 1. Submit weekly reports.**
- 2 Exam grades are written and oral.**

D. Thinking Skills

- 1. Using modern methods in preparing lectures and presenting them in PowerPoint format**
- 2. Preparing homework on topics related to the scientific material.**
- 3. Showing educational videos on the given material and using visual education.**

E. General and Transferable Skills

- 1. Discussion and dialogue to diagnose the problem.**
- 2. Discussion and dialogue to find solutions.**
- 3. Written tests.**
- 4. Oral assessment.**

11. Course Structure					
Week	Hour	Required Learning Outcome	Unit Name / Course or Topic	Learning Method	Evaluation Method
١	2	Knowledge	Mathematical functions	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
٢	2	Knowledge	Fractions and its applications	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
٣	2	Knowledge	Percentage and its applications in pharmaceutical calculations	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
٤	2	Knowledge	Data plotting in pharmaceutical calculations	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
٥	2	Knowledge	Differentiation and integration formulas	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
٦	2	Knowledge	Introduction to biostatistics	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
٧	2	Knowledge	Data description (numerical data)	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
٨	2	Knowledge	Data description (categorical data)	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
٩	2	Knowledge	Types of clinical trials	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
١٠	2	Knowledge	Binomial distribution of data	Using the whiteboard and the projector	Daily Quiz and Verbal Questions

١١	2	Knowledge	Principles of data analysis	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
12	2	Knowledge	Parametric tests for data analysis	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
13	2	Knowledge	Non-parametric tests for data analysis	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
14	2	Knowledge	Chi-square test and Fischer exact test	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions
15	2	Knowledge	Correlation and regression	Using the whiteboard and the projector screen	Daily Quiz and Verbal Questions

Infrastructure	
Required Reading:	References: Biostatistics: A foundation for the analysis in health science 10 th edition.
Special Requirements (Workshops, Journals, Software, Websites)	Electronic Websites: https://www.graphpad.com/guides/prism/latest/user-guide/index.htm
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

Admission:	
Prerequisites	Admission according to the central plan
Minimum Number of Students	/
Maximum Number of Students	Admission exceeds the capacity plan

Name of the Instructor:

م.م. Assistant Lecturer Hasnain Abdulhamid Athar