Department of Statistics & Operation Research-King Saud University
First Semester 1445 /2023
Stat 109 Biostatistics

Instructor : **Kholoud Basalim**

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Office : **Building 25 , Office : 2A03 second floor**

Office hours: **Monday : 10 AM – 12:30 PM - Tuesday :12:05 PM- 12:30 PM**

Course Timeline

Week	Title
W2	**Chapter 1 : Introduction to biostatistics** : Some Basic Concepts , Types of variables , Probability Sampling (Simple random sampling, Stratified sampling)
W3	**Chapter 2 : Grouped Data:** The Frequency Distribution , Displaying Grouped Frequency Distributions
W4	**Chapter 2** : **Descriptive Statistics :** Measures of Central Tendency (mean, median, mode), Measures of Dispersion (range, variance , standard deviation, coefficient of variation)
W5-6	**Chapter 3 : Basic Probability Concepts :** General Definitions and Concepts , Probability of an Event, Marginal Probability, Conditional Probability, Bayes' Theorem
First Term Exam - Chapters 1 , 2 , 3	
W6-7	**Chapter 4 : Probability Distributions: Discrete :** Probability Distributions for Discrete Random Variables , Expected Value and Variance of a Discrete Random , Cumulative probability , Binomial Distribution , The Poisson Distribution
W8	**Chapter 4 : Continuous Probability Distribution :** The Normal Distribution , The Standard Normal Distribution , The T-Distribution
W9	**Chapter 5 : Sampling Distribution :** sampling distribution of one and two sample means and one and two proportions
Second Term Exam - Chapters 4 & 5	
W10	**Chapter 6 : Estimation :** Point Estimators , Interval Estimation
W11	**Chapter 7 : Hypothesis Testing :** Null and Alternative Hypotheses , Type of errors , Concept of P-value, Hypothesis Testing: A Single Population Mean (μ)
W12-13	**Chapter 7 : Hypothesis Testing:** The Difference Between Two Population Means: Independent Populations ,Paired Comparisons , Hypothesis Testing: A Single Population Proportion (P) , Hypothesis Testing: The Difference Between Two Population Proportions ($P_1 - P_2$)
Final Exam Sunday 18/12/2023 – (5-6-1445H) at 1:00 PM **Chapters 6 & 7**	

Required text Books:

- Foundations of Biostatistics by Islam, M. Ataharul, Al-Shiha, Abdullah

Additional text Books:

- Bernard Rosner. Fundamentals of Biostatistics.
- Pagano, Gauvreau. Principles of Biostatistics, 2nd edition.

Attendance:

Student missing more than 25% of the total class hours won't be allowed to write the final exam.

Grading policy:

First Midterm: 30 Marks (1:30 hours)
Second Midterm: 30 Marks (1:30 hours)
Final Test: 40 Marks (2 hours)