

Course Specification of Biostatistics

Faculty : Medicine and health sciences

Department: Community

Program : Bachelor of Medicine and Surgery

I. General information about the course instructor :							
Name	Dr. Majed Wadi	Office Hours(3 Hours Weekly)					
Location & phone number	4118	Sat	Sun	Mon	Tue	Wed	Thu
Email		✓			✓	✓	

II. General information about the course:							
1.	Course Title :	Biostatistics					
2.	Course Code and Number :	BMD16					
3.	Credit Hours :	Credit Hours					Total
		Theoretical	Seminar/ Tutorial	Practical	Clinical	Training	
		2	-	2	-	-	4
4.	Study Level and Semester:	2nd year/ 1st semester					
5.	Pre-requisites:	None					
6.	Co-requisites :	None					
7.	Program in which the course is offered:	Bachelor of Medicine and Surgery					
8.	Teaching Language:	English					
9.	Instruction location:	University of Science and Technology, Sana'a					

III. Course Description

The course focuses to prepare students with essential concepts and application in Biostatistics. Students will be discovered Descriptive Statistics including variable types, central and dispersion measurements and making graphs and tables. Also, he will be exposed to Inferential Statistics including normal distribution, selecting suitable statistical tests and interpreting the findings (p-value). S/he will be able to deal with Excel and SPSS to code variables, inter data and do the proper statistical tests and

applications. Independent t-test, paired t-test, and Chi-square will give to students as common used parametric tests. Mann-Whitney, Wilcoxon Signed Rank and Fisher exact tests will be given as corresponding non-parametric tests. Students will be requested to install SPSS in their PCs and practical sessions will be run to explain them how to deal with such software.

IV. Course Aims:

The course aims to:-

1. Enhance students' knowledge, skills and practice with basic principles of Biostatistics
2. Demonstrate different uses of Biostatistics in Medicine and researches
3. Differentiate the using of both types of Biostatistics .
4. Enrich their capabilities to use such principles in scientific researches

V. Course Intended Learning Outcomes (CILOs) :

1. Define basic terms and concepts in Biostatistics
2. Describe the fundamentals of probability and test of significance
3. Differentiate between different statistical tests and their uses
4. Interpret data process output from Statistical Package for Social Sciences software (SPSS).
5. Manage statistical data properly by means of data coding and entry into SPSS
6. Perform the suitable statistical calculations or test to analyze data
7. Construct suitable methods for data presentation and interpretation (tables and graphs)
8. Demonstrate critical thinking, decision making, synthesis and interpretation of statistical information.
9. Use methods of data presentation as scientific communication.

VI. Course Contents

Theoretical Aspect:

No.	Course Units	Sub-topics	No. of lectures	Contact Hours
1	Introduction to Biostatistics	Type of variables	1	2
2	Data presentation	Tables Graphs	2	4
3	Central tendency measurements	Mean Median Mode	1	2
4	Dispersion measurements	Range Standard deviation Inter-quartile range	1	2

		Standard error		
5	SPSS overview	Data coding and entry	1	2
6		Midterm Exam	1	2
7	Inferential Statistics	Estimation Hypotheses testing Selecting Suitable Statistical Tests	4	8
8	Statistical Tests	Independent t-test Paired t-test Chi-square Correlation and regression	4	8
Total			15	30 = 2 CH

Second: Practical/Tutorial/Clinical Aspects :			
No.	Practical/Tutorial/Clinical topics	No. of Sessions	Contact Hours
1.	Application of :Tables -Graphs	4	8
2.	Perform: Mean Median Mode	4	8
3.	Range Standard deviation Inter-quartile range Standard error	4	4
4.	Perform Data coding and entry	4	4
5.	Estimation Hypotheses testing Selecting Suitable Statistical Tests	8	16
6.	Independent t-test Paired t-test Chi-square Correlation and regression	10	20
Total		30	60 = 1 CH