Republic of Yemen

Ministry of Higher Education & Scientific Research

21 SEPTEMBER UNIVERSITY for MEDICALS & APPLIED SCIENCES

Faculty of Medicine

Bachelor Program of Medicine and Surgery (MBBS)

Course Specification of

Medical Biostatistics (CM2)

Course Code. (A21P225)

2023

T4: This Template is Developed and Approved by CAQA-Yemen, 2023

Prepared by:	Reviewed by:	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Dr. Jamel Mujalli	Dr. Fadhl Shujaa Al-deen	Dr. Fadhl Shujaa Al-deen	Salwa Al-Ghomeri	Dr. Mohammed Al-shamahi

I. General Information:

1.	Course Title:	Medical Biostatistics (CM 2)				
2.	Course Code:	A21P225				
3.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours	
			Lecture	Tutorial/ Seminar	Lab	Clinical
		2	2	0	0	0
4.	Level/ Semester at which this Course is offered:	Level 2 / Semester 2				
5.	Pre –Requisite (if any):	Community Medicine I				
6.	Co –Requisite (if any):	NON				
7.	Program (s) in which the Course is Offered:	Bachelor of Medicine and Surgery (MBBS)				
8.	Language of Teaching the Course:	English				
9.	Location of Teaching the Course:	Faculty of Medicine				
10.	Prepared by:	Dr. Jamel Mujalli				
١١	Date and Number of Approval by Council:	2023				

II. Course Description:

This course is designed to acquire student with basic principles of statistics and how to deal with different data at various clinical settings and researches.

III. Course Intended Learning Outcomes (CILOs) : Upon successful completion of the course, students will be able to:		Referenced PILOs		
A. Knowledge and Understanding:		**I, P or M/A**		
a1	Identify Types of variables & data & statistical test and their applications to health.	**I**	**A4**	Recognize the local and international guidelines, ethics, disease management, prevention and other risk factors that affect community health.
a2	Discuss types of hospital records & nonparametric tests & methods of data presentation.	**M**		
B. Intellectual Skills:				
b1	Differentiate between alternative and null hypotheses & types of hospital Records & methods of data presentation.	**A**	**B1**	Compare between normal and abnormal conditions and predict the appropriate treatment or intervention.
b2	Analyses the importance of biostatistics into research.	**P**	**B2**	Analyze and interpret the finding from history, clinical examination and investigations to propose a diagnosis and develop a shared management plan for common acute, chronic and urgent physical and mental health presentations.
C. Professional and Practical Skills:				
c1	Apply methods of graphical presentation & exercise about testes of hypotheses.	**M**	**C3**	Carry out routine medical procedure and demonstrate the ability of using common medical tools required for diagnosis and management with highly qualified competency.
c2	Records different types of hospital data.	**I**		
D. Transferable Skills:				
d1	Using computer to analyze data Effectively.	**P**	**D2**	Work individually or in a team and develop lifelong learning using up to date technology that

				help in understanding the diseases and its control and prevention.
d2	consider confidentiality during data management & work within legal aspect.	**M**	**D3**	Respect the different cultural beliefs, ethics, personalities, privacy and values for patients and community with a good behavior and follow the institutional and national roles of medical practice

I= Introduced, P=Practiced or M/A= Mastered/Advanced

(A) Alignment of Course Intended Learning Outcomes (Knowledge and Understanding) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
a1	Identify Types of variables & data & statistical test and their applications to health.	▪ Lecture	▪ Written exam
a2	Discuss types of hospital records & nonparametric tests & methods of data presentation.		

(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
b1	Differentiate between alternative and null hypotheses & types of hospital Records & methods of data presentation.	▪ Lecture ▪ Brain storming	▪ Written exam. ▪ Assignment
b2	Analyses the importance of biostatistics into research.		

(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
c1	Apply methods of graphical	▪ Lecture.	▪

	presentation & exercise about testes of hypotheses.	▪ Exercises	Written exam. ▪ Assignment
c2	Records different types of hospital data.		

(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:

Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
d1	Using computer to analyze data Effectively.	▪ Research	▪ Assignment.
d2	Consider confidentiality during data management & work within legal aspect.		

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Introduction	▪ Definition and application of biostatistics ▪ Variables ▪ Hypothesis ▪ Sampling types of ▪ samples andmethods.	1	2	a1, b1
2	Data	• Data collection • Classification ofdata • Methods of data presentation • Tabulation of data • Graphic presentation of data • Uses of frequency • distribution tables.	3	6	a2, b1, c1,d1
3	Statistical test and their applications to	• Mean, SD, modeand Median • Applicable examples	3	6	a2, b2,

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
	health	onbiostatistics • Measurement of correlation and calculation of correlation coefficient. • Research analysis. • Vital statistics.			c1,d1
4	Midterm exam	–	1	2	a1, a2, b1,b2, c1
5	Records	• Types of hospital records. • The importanceof statistical ratio. • Statistical data analysis to obtain percentage, rate, test and graphic • presentation.	3	6	a2, b2, c2, d1, d2
6	Nonparametric tests	• Association and Causation • Correlation andregression • Analysis of Variance • Multivariate analysis	4	8	a2, d1
7	Final exam	–	1	2	a1, a2, b1, b2, c1, c2
Number of Weeks /and Units Per Semester			16	32	

B. Practical Aspect (Lab/Clinical) (if any):

No.	Tasks/ Experiments	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	NA			
Number of Weeks /and Units Per Semester				

C. Tutorial Aspect (if any):

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	NA			
Number of Weeks /and Units Per Semester				

VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	Calculate Mortality, Morbidity and birth rate	6th -12th	5	b1, b2, c1, c2
2	Research		5	d1, d2
Total			١٠	

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	6th - 12th	10	10%	b1, b2, c1,c2, d1,d2
2	Mid-Term Exam	8th	20	20%	a1, a2, b1, b2, c1
3	Final Exam	16th	70	70%	a1, a2, b2, c1, c2
Total			100	100%	

IX. Learning Resources:

1- Required Textbook(s):

1. P.Armitag. et al (2002). Statistical methods in medical research. 4nded, blackwell publishing,USA.
2 . . Biostatistics. P.S.S. SundarRao, J. Richard Prentice(1998). A foundation for Analysis in the Health Sciences: Daniel, W.W., John Wiley and Pub, Canada.

2- Essential References:

Prepared by:	Reviewed by:	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Assoc Prof. Jamil Mujalli	Dr. Fadhl Shujaa Al-deen	Dr. Fadhl Shujaa Al-deen	Salwa Al-Ghomeri	

1 . Byp A (1995). Statistical methods in medical research. 2nded, oxford.
2. P.S.S. SundarRao ,J. Richard Prentice(1996). An Introduction to Biostatistics. A manual for students in Health Sciences, Hall, New Delhi.

3- Electronic Materials and Web Sites etc.:

Websites:

1- www.blackwell-sciences.com.

2- www.cpd-syria.com.

X. Course Policies: (Based on the Uniform Students' By law (2007)

1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:** A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' By law (2007) shall apply.
6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' By law (2007) shall apply**.**
7	**Other policies:** The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

Republic of Yemen
Ministry of Higher Education & Scientific Research
21 SEPTEMPER UMAS
Faculty of Medicine
Department of Community Medicine
Unite of Development & Quality assurance

بسم الله الرحمن الرحيم

الجمهورية اليمنية
وزارة التعليم العالي والبحث العلمي
جامعـــة ٢١ سبتمبر للعلوم الطبية والتطبيقية
كلية: الطب.
قسم: طب المجتمع
وحدة التطوير وضمان الجودة

Faculty of Medicine

Bachelor Program of Medicine and Surgery (MBBS)

Course Plan (Syllabus) of Medical Biostatistics (CM2)

Course Code. (A21P225)

I. Information about Faculty Member Responsible for the Course:								
Name of Faculty Member:		Office Hours						
Location& Telephone No.:	-----							
E-mail:	--@--.--	SAT	SUN	MON	TUE	WED	THU	

2023

II. Course Identification and General Information:

Prepared by:	Reviewed by:	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Assoc Prof. Jamil Mujalli	Dr. Fadhl Shujaa Al-deen	Dr. Fadhl Shujaa Al-deen	Salwa Al-Ghomeri	

	Course Title:	Medical **Biostatistics (CM 2)**				
	Course Code:	A21P225				
	Credit Hours:	**Credit Hours**	**Theory Contact Hours**		**Practical Contact Hours**	
			Lecture	**Tutorial/ Seminar**	**Lab**	**Clinical**
		2	2	0	0	0
	Level/ Semester at which this Course is offered:	Level 2 / Semester 2				
	Pre –Requisite (if any):	Community Medicine I				
	Co –Requisite (if any):	NON				
	Program (s) in which the Course is Offered:	Bachelor of Medicine and Surgery (MBBS)				
	Language of Teaching the Course:	English				
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III. Course Description:

This course is designed to acquire student with basic principles of statistics and how to deal with different data at various clinical settings and researches.

IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the Course, student will be able to:

	A**. Knowledge and Understanding:**
a1	Identify Types of variables & data & statistical test and their applications to health.
a2	Discuss types of hospital records & nonparametric tests & methods of data presentation.

	B. **Intellectual Skills:**
b1	Differentiate between alternative and null hypotheses & types of hospital Records & methods of data presentation.
b2	Analyses **the importance of** biostatistics into research.
	C. **Professional and Practical Skills:**
c1	Apply methods of graphical presentation & exercise about testes of hypotheses.
c2	Records different types of hospital data.
	D. **Transferable Skills:**
d1	**Using computer to analyze data Effectively.**
d2	consider confidentiality during data management & work within legal aspect.

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	**Introduction**	– Definition **andapplication of biostatistics** – Variables – Hypothesis – Sampling **types of** ▪ **samples andmethods.**	1	2
2	**Data**	– Data **collection** • **Classification ofdata** • **Methods of datapresentation** • **Tabulation of data** • **Graphic presentation of data** • **Uses of frequency** • **distribution tables.**	3	6
3	**Statistical test and their applications to health**	– Mean, **SD, modeand Median** • **Applicable examples on biostatistics**	3	6

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		• Measurement ofcorrelation and calculation of correlation coefficient. • Research analysis. • Vital statistics.		
4	Midterm exam	–	1	2
5	Records	– Types of hospital records. • The importanceof statistical ratio. • Statistical data analysis to obtain percentage, rate,test and graphic • presentation.	3	6
6	Nonparametric tests	Association andCausation • Correlation andregression • Analysis of Variance • Multivariate analysis	4	8
7	Final exam	–	1	2
Number of Weeks /and Units Per Semester			16	32

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Introduction	▪ Definition andapplication of biostatistics ▪ Variables ▪ Hypothesis ▪ Sampling types of ▪ samples andmethods.	1	2
2	Data	• Data collection • Classification ofdata • Methods of data presentation • Tabulation of data • Graphic presentation of data • Uses of frequency • distribution tables.	3	6

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
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7	Final exam	–	1	2
Number of Weeks /and Units Per Semester			16	32

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Number of Weeks	Contact Hours
1	NA		
Number of Weeks /and Units Per Semester			

No.	Tasks/ Experiments	Number of Weeks	Contact Hours
1	NA		

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No.	Tasks/ Experiments	Number of Weeks	Contact Hours
Number of Weeks /and Units Per Semester			

C. Tutorial Aspect:

No.	Tutorial	Number of Weeks	Contact Hours
1	NA		
Number of Weeks /and Units Per Semester			

VI. Teaching Strategies of the Course:

خطأ! لم يتم العثور على مصدر المرجع.

- Lecture.
- Brine Storming.
- Research.

VII. Assessment Methods of the Course:

خطأ! لم يتم العثور على مصدر المرجع.

- Written exam.
- Assignment.

VIII. Assignments:

No.	Assignments	Week Due	Mark
1	**Calculate Mortality,** Morbidity **and birth rate**	6th **-12th**	5
2	**Research**		5
Total			١٠

IX. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment

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XI. Course Policies: (Based on the Uniform Students' Bylaw (2007)

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