Course Specification
(Bachelor)

Course Title:	Biostatistics
Course Code:	STAT104
Program:	All health related programs
Department:	Mathematics
College:	Medicine/Applied Medical Science/Nursing/Pharmacy
Institution:	Northern Border University
Version:	3
Last Revision Date:	29/05/2024

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A. General information about the course:

1. Course Identification

1. Credit hours: 2					
2. Course type					
A.	☐University	☒ College	☐Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (2nd semester/ 1st year)					
4. Course general Description:					
This course introduces common statistical approaches used in health sciences. This includes types of data and measurement scales, summarizing and presenting data, introduction to probability and probability distribution, confidence intervals, basics of hypotheses tests, introduction to correlation and regression analysis.					
5. Pre-requirements for this course (if any): NA					
6. Co-requirements for this course (if any): NA					
7. Course Main Objective(s):					
To equip students with the fundamentals of descriptive and inferential statistics.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	100%
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		30

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Recognize types of data and measurement scales.		Direct Instruction (lectures) Interactive instruction	Witten test Assignments
1.2	Identify methods used to summarize and present data.		Direct Instruction (lectures) Interactive instruction	• Witten test • Assignments
2.0				
2.1	Distinguish between different statistical tests and their uses.		Direct Instruction (lectures) Interactive instruction	• Witten test • Assignments
3.0	**Values, autonomy, and responsibility**			

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to biostatistics, types of data and measurement scales	2
2.	Graphical presentation	2
3.	Measures of central tendency	2
4.	Measures of variability	2
5.	Introduction to probability and its application	6
6.	Normal distribution	4
7.	Confidence intervals	4

8.	Hypotheses tests: basic concepts, one sample and two samples, ANOVA and Chi-square	6
9.	Correlation analysis	2
Total		**30**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Final theoretical test	17th	40%
2.	Quiz	5th	10%
3.	Midterm	8-9th	30%
4.	Assignments (4 assignments)	Across the term	20%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	Pagano, Marcello, Kimberlee Gauvreau, and Heather Mattie. Principles of biostatistics. Chapman and Hall/CRC, 2022, ISBN: 978-0367355807
Supportive References	Fundamentals of biostatistics, by Bernard Rosner, 8th Edition, Cengage Learning, 2016, ISBN: 978-1-305-26892-0
	Oxford Handbook of Medical Statistics, by Janet L. Peacock and Phil J. Peacock, 2nd edition, Oxford University Press, 2020, ISBN: 978-0-19-874358-3
Electronic Materials	
Other Learning Materials	Handouts and presentations for defined topics

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Class room, Computer laboratory
Technology equipment (projector, smart board, software)	Smart board , Projector
Other equipment (depending on the nature of the specialty)	NA

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect assessment
Effectiveness of Students assessment	Students	Indirect assessment
Quality of learning resources	Students	Indirect assessment
The extent to which CLOs have been achieved	Instructor/ Students	Direct assessment Indirect assessment
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**MATHEMATICS DEPARTMENT COUNCIL**
REFERENCE NO.	**MEETING NO 17 , ACCADEMIC YEAR 1444-1445**
DATE	**30.05.2024**