



Module (Course Syllabus) Catalogue 2021-2022

College/ Institute	Erbil Technical Health College	
Department	Physiotherapy	
Module Name	Research Methodology and Biostatistics	
Module Code	REM504	
Degree	Technical Diploma <input type="checkbox"/>	Bachelor <input checked="" type="checkbox"/>
	High Diploma <input type="checkbox"/>	Master <input type="checkbox"/> PhD <input type="checkbox"/>
Semester	4 th	
Qualification	M.A. In Educational Psychology, and Ph.D. in Curriculum and Education	
Scientific Title	Lecturer	
ECTS (Credits)		
Module type	Prerequisite <input type="checkbox"/>	Core <input checked="" type="checkbox"/> Assist. <input type="checkbox"/>
Weekly hours	4hr	
Weekly hours (Theory)	(2)hr Class	(60)Total hrs Workload
Number of Weeks	12	
1 st Lecturer	Dr. Zhwan Dalshad Abdullah	
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2 nd Lecturer	Ghariba Ali	
Websites	Ghariba.ali@epu.edu.iq	

Course Book

Course Description	The goal of this course is for students to acquire knowledge regarding what is research methodology and biostatistics, what are the types of research designs, steps in the research process: Identifying a research problem, Reviewing the literature, Specifying a purpose and research questions or hypotheses, Collecting either quantitative or qualitative data, Analysing and interpreting either quantitative or qualitative data, Reporting and evaluating the research.			
Course objectives	<p>The main objective of the Research methodology and Biostatistics course would be that students will be able to:</p> <ul style="list-style-type: none"> - begin to conduct research. - input data in SPSS program. - read and evaluate research studies. - Identify the type of research designs associated with quantitative and qualitative, and Identify the characteristics of quantitative and qualitative research. - Distinguish between the types of research Variables. - Identify a problem that defines the goal of research - Gather data relevant to the research using the appropriate research instrument. -Identify the population and using sampling techniques to determine the sample size of the study. - Analyse and interpret the data via SPSS techniques to see if it supports the prediction and resolves the question that initiated the research. 			
Student's obligation	<ul style="list-style-type: none"> • Reading and understanding of study notes • Participation in forum, lab and class exercise and discussions • Seminar presentation • Participation in active communication with the lecturer • Regular assignment submission 			
Required Learning Materials	Lectures notes, videos, audios, homework exercises, self-study, Hall, projector.			
Evaluation	Task	Weight (Marks)	Due Week	Relevant Learning Outcome
	Paper Review			
Assigme	Homework	%14	3 rd & 7 th	2,6,7&,9
	Class Activity	%2	All	All
	Report	%8	12 th	From 2- to 9
	Seminar	%8	11 nd	9

		Essay	%8	6 th	2&7
	Quiz		4%	All	All
	Midterm Exam		16%		
	Final Exam		40%		
	Total		100%		
Specific learning outcome:	<p>1-Ability to develop general knowledge in Research Methodology & Biostatistics, and understand the subjects of the module.</p> <p>2- Ability to write problem statement using the keys.</p> <p>3- Ability to locate the database and research studies to write a literature review, and following the appropriate writing style for citation and referencing.</p> <p>4- Ability to adapt or adopt the appropriate instrument to collect the data.</p> <p>5- Ability to determine the appropriate sampling techniques based on research design.</p> <p>6- Ability to input data and analyze based on SPSS program, and interpret the outcome of the data.</p> <p>7- Ability to write the research objectives, questions, and hypothesis based on the purpose of research.</p> <p>8- Ability to use the Descriptive Statistics or Inferential Statistics based on research design.</p> <p>9- Ability to write a discussion and conclusion of the study findings and the citations with referencing.</p>				
Course References:	<ul style="list-style-type: none"> • Main textbook - Study notes • References textbook and data (Journal, report, website and ETC.) • John W. Creswell, Planning, Conducting, and Evaluating Quantitative and Qualitative Research, 2012 • http://repository.unmas.ac.id/medias/journal/EBK-00121.pdf • Indrayan, Abhaya. 2012. Medical Biostatistics, Third Edition • CHAP T. LE. 2003. INTRODUCTORY BIostatISTICS, John Wiley & Sons http://www.hstathome.com/tjziyuan/Introductory%20Biostatistics%20Le%20C.T.%20%20(Wiley,%202003)(T)(551s).pdf <p>Additional Materials</p> <ul style="list-style-type: none"> • YK Singh · 2006. Fundamental of Research Methodology and Statistics • https://mfs.mkcl.org/images/ebook/Fundamental%20of%20Research%20Methodology%20and%20Statistics%20by%20Yogesh%20Kumar%20Singh.pdf 				

Course topics (Theory)	Week	Learning Outcome
L01: Definition of research, Research process through quantitative and qualitative research Statement of the problem: How to write a statement of the problem?	1 st	1 & 2
L02: Definition of Biostatistics, General Purposes of statistics, Populations and Samples, What are they? , Sampling Techniques, Types of Variables, and Types of research design.	2 nd	2
L03: What is literature review, What are the five steps in conducting a literature review? Descriptive Statistics Vs. Inferential Statistics, Frequency Distribution	3 rd	3
L04: Purpose statements, Research question, Research objectives. Class midpoint, and Class Boundaries	4 th	4 & 5
L05: , Research hypotheses, Mean, Median, and Mode I	5 th	7
L06 Data collection and types of instruments, Mean, Median, and Mode II	6 th	3,4,6&8
Midterm Exam		
L07: Concept of Validity. Types of Validity, Variation, Range, Standard deviation.	7 th	5
L08: Pilot study, Types of Reliability. Internal consistency and Test retest	8 th	6&8
L09: Normal distribution and Z-score	9 th	6
L10: Data interpretation, Discussion and conclusion	10 th	9
L11: Referencing and Citations	11 th	3
L12: Seminar presentation	12 th	From 2- to 9

Final exam

Questions Example Design

Q.1)

Extra Note

External evaluator