هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TP-153

Course Specification
(Bachelor)

Course Title:	**Research Methodology in medical Physics**
Course Code:	**MPHY6481**
Program:	**Medical Physics**
Department:	**Physics**
College:	**Science**
Institution:	**University of Bisha**
Version:	**1**
Last Revision Date:	**5 September 2023**

Table of Contents

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:	**7th Level / 4th year**				
4. Course general Description					
The course aims to provide in-depth knowledge of research design, methodology and to train the student how to write scientific research in medical physics.					
5. Pre-requirements for this course (if any):					
NA					
6. Co- requirements for this course (if any):					
NA					
7. Course Main Objective(s)					
Recognizing the fundamental of design and writing the scientific research..					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	2	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	Recognizing the fundamental of writing the scientific research.	K2	Lecturing	Quizzes Homework Midterm exam Final exam
2.0	Skills			
2.1	Design the research plan and formulates scientific research hypotheses.	S1	Lecturing Self-learning	Quizzes Homework Midterm exam Final exam Reports Presentation
2.2	Identify the sources of information and analyze it.	S5		
2.3	Using the scientific research tools	S5		
2.4	Write the research report.	S5		

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.5	Communicate positively with others.	S4	Presentation Work group	Reports Presentation
3.0	Values, autonomy, and responsibility			
3.1	Apply academic and professional ethical values effectively and efficiently.	V1	Self-learning	Questionnaire
3.2	Exhibit self-learning skills independently.	V2	Self-learning	Reports Presentation

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to scientific research	3
2.	Preparation of the scientific research plan - the problem of research - sources of obtaining the problem	3
3.	Literatures review and previous studies	3
4.	Research hypotheses - formulation of hypotheses - types of hypotheses - test hypotheses	3
5.	Sources of information in scientific research and documentation.	3
6.	Samples in scientific research - selection - types - methods	3
7.	Scientific research tools - tests - observation - interview	3
8.	Scientific research report - the method used - discussion - writing method	3
9.	Descriptive statistics used in scientific research. Ethical issues in scientific research.	3
10.	Applied side in scientific research.	3
Total		30

Table: The matrix of consistency between the content and the learning outcomes of the course.

		Course Learning Outcomes						
	1.1	2.1	2.2	2.3	2.4	2.5	3.1	3.2
Topic 1	√				√	√		√
Topic 2	√	√			√	√		√
Topic 3	√				√	√		√
Topic 4	√	√			√	√		√
Topic 5	√				√	√		√
Topic 6	√		√		√	√		√
Topic 7	√		√		√	√		√
Topic 8	√			√	√	√		√
Topic 9	√				√	√	√	√
Topic 10	√				√	√		√

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homework, quizzes, reports, and presentation.	1: 15	10 %
2.	First term exam	7: 8	20 %
3.	Second term exam	12:13	20 %
4.	Final exam	End of Semester	50 %

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	Graham Basten. Introduction to scientific research projects. Ventus publishing ApS (2010).
Supportive References	Margaret Cargill and Patrick O'Connor. Writing Scientific Research Articles Strategy and Steps. A John Wiley & Sons, Ltd., Publication (2009).
Electronic Materials	- Blackboard. - PowerPoint presentations. - Digital library of University of Bisha https://ub.deepknowledge.io/Bisha
Other Learning Materials	NA

2. Required Facilities and equipment

Items	Resources
facilities	Laboratory research
Technology equipment	Projector or smart board
Other equipment	NA

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students.	Indirect (Questionnaire).
Effectiveness of students assessment	Students, Staff members, Program Leader.	Indirect (Questionnaire).
	Peer Reviewer.	Direct (Review exam)
Quality of learning resources	Students, Staff members, Program Leaders.	Indirect (Questionnaire).
The extent to which CLOs have been achieved	Students, Staff members, Program Leader.	Indirect (Questionnaire).
	Course coordinator.	Direct (Course Learning Outcomes Assessment).

G. Specification Approval Data

COUNCIL /COMMITTEE	College of Science Council
REFERENCE NO.	١
DATE	5 September 2023