



## Course Specifications

<b>Course Title:</b>	PHYSICS FOR MEDICAL PURPOSES
<b>Course Code:</b>	PPHS125
<b>Program:</b>	Common first year
<b>Department:</b>	Basic Science Department
<b>College:</b>	College of Science
<b>Institution:</b>	Majma'ah university



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## A. Course Identification

<b>1. Credit hours:</b>			
<b>2. Course type</b>			
a.	University <input checked="" type="checkbox"/>	College <input type="checkbox"/>	Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b.	Required <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>	
<b>3. Level/year at which this course is offered:</b> 1 <sup>st</sup> level, First semester , Second semester			
<b>4. Pre-requisites for this course (if any):</b> None			
<b>5. Co-requisites for this course (if any):</b> None			

### 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	45	100%
2	Blended		
3	E-learning		
4	Distance learning		
5	Other		

### 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	45
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	<b>Total</b>	45

## B. Course Objectives and Learning Outcomes

<b>1. Course Description :</b> This course is an introductory course for the fundamental principles of physics. The student will be studying the main concepts
<b>2. Course Main Objective :</b> The main purpose of this course is to provide the student with the fundamentals and basic physical concepts which are directly related to the medical sciences

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
<b>1</b>	<b>Knowledge and Understanding</b>	
1.1	To know the physical quantities, the international system of unit, converting units, scientific notation and dimensional analysis	
1.2	To know and describe the basic principles of mechanics, vectors, force, energy, work and power	
1.3	Distinguish between temperature and heat, express temperature using different scale, define the three states of matter	
1.4	To know what is meant by a wave and vibration and the different varieties of waves, describe the wave, wave motion, sound waves and the interference of the waves	
1.5	Describe the nature of electric charge, use coulombs law to find the force between charges, characteristic of electricity, ohms law, circuits	
<b>2</b>	<b>Skills :</b>	
2.1	Develop working skills for solving different physics problems	
2.2	Develop skills for understanding and interpreting of physical phenomena	
<b>3</b>	<b>Values:</b>	
3.1	Prepare and present certain topics during the semester, look out for certain issues in the course	
3.2	Use internet for searching certain electronic journals regarding topics of the course.,	

### C. Course Content

No	List of Topics	Contact Hours
1	<b>Unit 1: Introduction to physics , Units and Measurements</b>	9
2	<b>Unit 2: Mechanics</b>	9
3	<b>Unit 3: Heat and Properties of Matter</b>	9
4	<b>Unit 4: Light and Optics</b>	9
5	<b>Unit 5: Modern Physics</b>	9
...		
<b>Total</b>		<b>45</b>

### D. Teaching and Assessment

#### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge and Understanding</b>		
1.1	Recognize the importance of physics in daily life.	Group discussion, lecture, team work and learning, worksheets	Continuous feedback, oral, Quizzes, and written exams
1.2	Recognize the importance of the role of physics in Science and Technology.	Group discussion, lecture, team work and learning, worksheets	Continuous feedback, oral, Quizzes, and written exams



Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.3	Develop skills for understanding and interpreting of physical phenomena.	Group discussion, lecture, team work and learning, worksheets	Continuous feedback, oral, Quizzes, and written exams
1.4	Develop working skills for solving different physics problems.	Group discussion, lecture, team work and learning, worksheets	Continuous feedback, oral, Quizzes, and written exams
<b>2.0</b>	<b>Skills</b>		
2.1	Use the physics laboratory to apply what they learn	Group discussion, lecture, team work and learning, worksheets	quizzes , participation , written exams
2.2			
...			
<b>3.0</b>	<b>Values</b>		
3.1	Use internet for searching certain electronic journals regarding topics of the course.,	Research activities, assignments.	Assignments, participation
3.2	Prepare and present certain topics during the semester, look out for certain issues in the course.	Research activities, assignments.	Assignments, participation
...			

## 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm exam	class	40%
2	HomeWork and quizzes	During the term blackboard	10%
3	Participation	During the term	10%
4	Final Assessment exam	15th	40%

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

**Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:**  
4 hours are schedule as office hour per week

## F. Learning Resources and Facilities

### 1. Learning Resources

Required Textbooks	INTRODUCTION TO PHYSICS: Copyright 2016, ISBN: 978-1-78449-328-8
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<b>Essential References Materials</b>	<a href="http://www.academicpub.org/jbap/">www.academicpub.org/jbap/</a>
<b>Electronic Materials</b>	<a href="http://science.pppst.com/physics.html">http://science.pppst.com/physics.html</a> <a href="http://physwiki.ucdavis.edu">http://physwiki.ucdavis.edu</a> <a href="http://www.physics.org">http://www.physics.org</a>
<b>Other Learning Materials</b>	

## 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms with LCD projectors and 20 seats
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	The classroom must be equipped with smart or active board
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	laboratory equipment physics (x-ray detector)

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course Evaluation Questionnaire at the end of the term	students	Indirect
Daily log for students comments and observations	Instructor	direct
Peer Review evaluation of course' content, format, and teaching strategies	Instructor	direct
External reviewers of the course annually	Control committee	Indirect

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

<b>Council / Committee</b>	Science department council
<b>Reference No.</b>	
<b>Date</b>	21/9/2021