COURSE DESCRIPTION

PHYSICS FOR MEDICAL PURPOSES

For

PREPARATORY YEAR STUDENTS

Institution **Majmaah University**
College/Department **Preparatory Year**

A Course Identification and General Information

1. Course title and code: **Physics For Medical PURPOSES (PPHS 125)**
2. Credit hours **2 (2, 1, 0)**
3. Name of faculty member responsible for the course **Omar Hani Almeqbel...**
4. Level/year at which this course is offered **Preparatory Year Second Semester**
5. Pre-requisites for this course (if any) **None**
6. Co-requisites for this course (if any) **None**

B Objectives

Summary of the main learning outcomes for students enrolled in the course.

The goal of this course is to provide the student with fundamentals and basic physical concepts which are directly related to engineering. the main learning outcomes for students include :

- **Recognize the importance of physics in daily life.**
- **Recognize the importance of the role of physics in Science and Technology.**
- **Develop skills for understanding and interpreting of physical phenomena.**
- **Develop working skills for solving different physics problems.**
- **Training on the correct method for thinking and solving simple and complicated problems.**

C. Course Description (Note: General description in the form to be used for the Bulletin or Handbook should be attached)

Topics to be Covered			
List of Topics	**Chapter No.**	**No of Weeks**	**Contact hours**
Introduction to Physics, Units and Measurements : Physics and its relation to other field, Models, Theories, and Laws, Measurement and Uncertainty, Significant Figures, Units, Standards, and the SI system, Conversion Units, Order of Magnitude, Dimensions and Dimensional Analysis	**1**	**3**	**9**
Mechanics : Vectors, linear Motion, Velocity, Acceleration, Uniformly Accelerated Motion and Free Fall, Force and the Law of Inertia, Force and the Law of acceleration, Gravity and Weight, Friction, Total Force in one Dimension, Law of Action and Reaction, Work, Power, Energy, Conservation of Mechanical Energy	**2**	**3**	**9**
First Exam :			
Heat and Properties of Matter: Temperature, Heat, Specific Heat, Change of Phase, Properties of Matter, Properties of Liquids, Properties of Gases, Density.	**3**	**3**	**9**
Light and Optics: Nature of Light, The speed of Light, Light as a Wave, Reflection, Image Formed by Mirrors, The Mirror Formula, The Law of Refraction, Total Internal Reflection, Types of Lenses, Image Formed by Lenses, The Lens Equation, The Colour of Light	**4**	**3**	**9**
Second Exam :			
Modern Physics: Radiation, Bohr Model of the Atom, X-rays and Radiation, Half-Life, Alpha-Beta-and Gamma Rays, Environmental Radiation	**5**	**3**	**9**
Final Exam :			

Course components (total contact hours per semester):				
Lecture : **30**	Tutorial : **0**	Laboratory : **15**	Practical/Field work/Internship	Other :

D. Text books : DALE EWEN , NEILL SCHURTER, P. ERIK GUNDERSEN, Paul G. Hewitt , **INTRODUCTION TO PHYSICS**, Copyright 2016, ISBN: 978-1-78449-328-8

E. Assesment

Schedule of Assessment Tasks for Students During the Semester			
Assessment	Assessment task (eg. essay, test, group project, examination etc.)	Week due	Proportion of Final Assessment
1	**First Midterm exam**	**7**	**20**
2	**Second Midterm exam**	**12**	**20**
3	**Quizzes**	**During the term**	**5**
4	**Exercises**	**During the term**	**5**
5	**Lab**	**During the term**	**10**
6	**Final written exam**	**16**	**40**