Faculty of Computers and Information Technology

Physics

Information :

Course Code : PH101	**Level :** Undergraduate	**Course Hours :** 3.00- Hours

Department : Faculty of Computers and Information Technology

Instructor Information :

Title	Name	Office hours
Lecturer	Ahmed Samir Abdel Ghani Atia El Azerk	1
Lecturer	Nancy Naguib Abdellatif Elewa	1
Assistant Lecturer	Mohamed Essam Abd El Aziz Abd El Aal	6
Assistant Lecturer	Romisaa Gamal Mahmoud Abdelrhman	2
Assistant Lecturer	Noura Khedr Abdul raheem Ahmed	
Assistant Lecturer	Reham Milad Kamel Samaan	
Teaching Assistant	Bassel Yasser Mohamed Kamel	
Teaching Assistant	Nadia Mansour Metwally Ali Mourad	
Teaching Assistant	Mohamed Yahia Mohamed Abdelkader	
Teaching Assistant	Ahmed Abdelfattah Abdelaziz Abdelfattah	
Teaching Assistant	Ahmed Mohamed Abdelnaby Ali Shafay	
Teaching Assistant	Mohamed Fathy Salem Mohamed	

Area Of Study :

Apply the basic concepts and theories of physics.
Combine and evaluate different tools and facilities to study physics.
Compare, evaluate and select methodologies from range of techniques to solve physics problems.
Deal with the individual, social and environmental implications of the application of physics.
Use effectively communication skills.

Description :

The objectives of the course is to provide the students with basic foundation on basics elements of Physics devices including concepts of Vectors, Coulombs Law, Electrical Field, Electrical potential Energy, Electrical Current and Resistance, Kirchoffs Laws, Magnetic field and force, Amperes Law, Quantization , Black body radiation, Photo electric effect, x-ray production, Compton scattering, and Bohr Model of Hydrogen Atom

Course outcomes :

a.Knowledge and Understanding: :

1 -	Discuss fundamental concepts and theories related to physics
2 -	Describe the methodologies and practices used to solve the physics problems
3 -	Discuss specifications for a give problem solution.

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b.Intellectual Skills: :

1 -	Analyze the limitations and constrains for physics development
2 -	Implement the solutions of physics in academic disciplines.

c.Professional and Practical Skills: :

1 -	Run computing methods to verify different physics laws
2 -	Use different techniques to understand the nature of electric field, electric potential, and electric potential energy
3 -	Realize the circuit analysis concepts to apply Kirchhoffs' Laws

d.General and Transferable Skills: :

1 -	Work in a team effectively and efficiently considering time and stress management
2 -	Utilize effectively general computing facilities
3 -	. Appreciate continuous professional development and lifelong learning

ABET Course outcomes :

1 -	Apply the basic concepts and theories of physics.
2 -	Combine and evaluate different tools and facilities to study physics.
3 -	Compare, evaluate and select methodologies from range of techniques to solve physics problems.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction to Vectors	4	2	2
Coulomb's law	4	2	2
Electrical field	4	2	2
Electric potential, Electric potential Energy	4	2	2
Capacitors	4	2	2
Electric current, Resistance	4	2	2
Kirchhoffs' Laws	4	2	2
Magnetic field and force	4	2	2
Mid-Term Exam	2		
Ampere's Law	4	2	2
Quantization, Black body radiation, Photo electric effect	4	2	2
x-ray production, Compton scattering	4	2	2
Bohr Model of Hydrogen atom	4	2	2
Final Exam	2		

Teaching And Learning Methodologies :

Interactive Lectures including discussion
Tutorials
Practical Lab Sessions
Self-Study (Project / Reading Materials / Online Material / Presentations)

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Problem Solving

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignments	5.00	4	
Final Exam	40.00	14	
Midterm Exam (s)	20.00	9	
Others (Participation)	20.00	1	
Quizzes	10.00	5	
Team Work Projects	5.00	12	

Books :

Book	Author	Publisher
College Physics (Ebook)	Paul Peter Urone	OpenStax
Fundamental Physics and Physics Education Research (Ebook)	Burra G. Sidharth	springer

Course Notes :

An Electronic form of the slides of the Lectures is available on the Students Learning Management System (Moodle)