FUTURE UNIVERSITY IN EGYPT جامعة المستقبل

Faculty of Engineering & Technology

Physics 2

Information :

Course Code :	PHY 132	**Level :**	Undergraduate	**Course Hours :**	4.00- Hours

Department : Faculty of Engineering & Technology

Instructor Information :

Title	Name	Office hours
Lecturer	Mohamed Ehab Ahmed Fakhr Eldin Bakr	25
Lecturer	Mohamed Ehab Ahmed Fakhr Eldin Bakr	25
Lecturer	Mohamed Ehab Ahmed Fakhr Eldin Bakr	25
Assistant Lecturer	Lamia Hamdy Ahmed Kamal Shehab Eldin	16
Assistant Lecturer	Nada El Said Abdallah Hassan Salem	8
Assistant Lecturer	Mahmoud Ahmed Nasr Kamal Abdo Mostafa	7
Assistant Lecturer	Mohamed Essam Abd El Aziz Abd El Aal	20
Assistant Lecturer	Noha Mohamed Abdelaziz Asker	
Assistant Lecturer	Lamia Hamdy Ahmed Kamal Shehab Eldin	16
Assistant Lecturer	Mohamed Essam Abd El Aziz Abd El Aal	20
Assistant Lecturer	Mahmoud Ahmed Nasr Kamal Abdo Mostafa	7
Teaching Assistant	Omar Salah Abdelmoniem Ghareeb	
Teaching Assistant	Taha Abdelhamid Abdelmaqsoud Abdelhamid Yehia	
Teaching Assistant	Ahmed Abdelfattah Abdelaziz Abdelfattah	
Teaching Assistant	Omar Salah Abdelmoniem Ghareeb	
Teaching Assistant	Mohamed Osama Mohamed Abbas	
Teaching Assistant	Nadia Mansour Metwally Ali Mourad	
Teaching Assistant	Youmna Elsayed Abd Elalem Mohamed Sayed Ahmed	
Teaching Assistant	Romisaa Gamal Mahmoud Abdelrhman	11
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Area Of Study :

Description :

Coulombôs Law, Electric field intensity and flux, Gaussôs law of electrostatics and its applications, Electric potential and potential energy, electrodynamics, electric current and current density, ohmôs law and Kirchhoffôs rules for electric circuit solving, magnetic field and flux, gaussôs law of magnetism, force due to a moving charge and current carrying wire, Amereôs circuital law, Faradayôs law for induction, Maxwellôs equations in integral form and their physical meaning for electromagnetism.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Explain basic principles of electric field and flux.
2 -	Describe fundamentals of electrodynamics including Ohmôs and Kirchhoffôs laws.
3 -	Explain basic principles of Magnetic field and flux.
4 -	Describe Amereôs circuital law, Faradayôs law, and Maxwellôs equations.
b.Intellectual Skills: :	
1 -	Estimate electric field and flux to solve physical engineering problems.
2 -	Evaluate simple D.C. circuits based on electrodynamics fundamentals.
3 -	Apply Magnetic field basic principles in physical engineering problems.
c.Professional and Practical Skills: :	
1 -	Perform experiments on different physical phenomena including electricity and magnetism.
2 -	Measure different physical parameters related to studied topics.
d.General and Transferable Skills: :	
1 -	Work effectively in a team.
2 -	Communicate effectively.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Gaussôs law of magnetism and forces due to a moving charge and current carrying wire.	7	1	2
Amereôs circuital law and its applications	9	1	3
Faraday's law for induction and its applications	11	1	4
Maxwellôs equations in integral form and their meaning	5	1	1
Coulombôs Law	5	1	1
Electric field intensity and flux	10	2	2
Gauss Law of electrostatics and its applications	12	2	3
Electric potential and potential energy	14	2	4
Electric current and current density	11	1	4
Ohmôs law and Kirchhoffôs rules for electric circuit solving	9	1	3
Magnetic field and flux	12	2	3

Teaching And Learning Methodologies :
Interactive Lecturing
Discussion
Problem solving
Experimental learning
Cooperative learning

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignment	5.00		
Final Exam	40.00		
Lab.	10.00		
Mid- Exam 1I	20.00		
Mid- Exam I	10.00		
Participation	10.00		

Course Notes :

Recommended books :

Periodicals :

Web Sites :