



Department of General science

College of Basic Education

University of salahaddin Subject : General physics/theoretical

Course name: magnetism second semester

Lecture Name : Msc / Hassan Jalal Aziz

Academic Year : 2023 -2024

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Directorate of Quality Assurance and Accreditation **بەڕێوەبەرایەتی نەتەنەبەختەن و مەتەنەبەختەن جۆری و مەتەنەبەختەن**

Course Book 2020-2021

Course name	Magnetism second semester
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Course overview:

This course is specialized with learning magnetic principle of concepts magnetism , magnetic poles, magnetic field, magnetic flux, ampers law, Lorentz force.

Course objective:

To learning students magnetic matter ,the ability magnetization , ampers law, charged particles acceleration by electric and magnetic in two wires cross electric current.

**Learning methods**

1/ Data show — power point 2/ White board  
3/ module online 4/ written

**Course References**

1/ Lessons in electric circuits , volume I I —Ac by Tony R. Kaphaldt , sixth Edition ,  
2/ Lessons in electric circuits , volume 1 DC by Tony R. Kaphaldt , Fifth Edition  
3/ Hand book of physics By Walter benenson , Johr W. Harris , Horst stocker , Holger L'\*ts Qc61.H37 2001  
4/ Collage of Physics book .  
5- University physic with modern physics , HugH D. Young RogeR A. FReeDmAn University of California, Santa Barbara . 2016

**Lecture Schedules**

Content of course

Wednesday stage / 2

8:30 -10:30 group B  
10:30-12:30 group A

**Ranks distribution**

Semester	Practical degree %	Theory		
1 semester	35	15		50%
Final Exam	----	50%		50%
Total 100%	35%	65%		100%

**Example**

Q1:what is the difference between discovered orsted and faraday in magnetism?

Q2:a proton is moving in a circular orbits of radius (14cm) in a uniform (0.35T) magnetism field perpendicular to the velocity of the proton. Find the velocity of the proton?

Q3: Define the following :1-matter. 2-magnetic field. 3-ampers law.

**Second semester in magnetism:**

- 1-field the magnetics (one week).
- 2-the effect of magnetic field on current carrying conductor (one week).
- 3--the effect of magnetic field on moving charged particle( one week ).
- 4-magnetic field of the sources (one week).
- 5-generators and motors (one week).
- 6-inductance (one week).
- 7-alternating current circuits( three weeks).
- 8-transformer( one week ).
- 9-farraday’s law( one week ).
- 10- lenz’s law( one week ).
- 11-resonance( one week ).

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