

PHYS 111
Autumn 2018

Course description/ objective

Course description

The course will provide an overview of topics in general physics : electricity, optics and e.m. radiation

وصف المقرر

المقرر سوف يقدم للطالب رؤيه عامه عن الفيزياء فيما يخص الكهربيه الساكنه والتياريه والبصريات والفيزياء الاشعاعيه والنوويه

Course objectives

The student should be aware of the laws of static electricity, electric current, nature of light, reflection, refraction of light and linear spectra
And the nature of the black body and the phenomenon of electromagnetism and the composition of the nucleus and types of radiation and the age of half
2 - Understanding physical phenomena and how to use concepts and physical laws
3 - dealing with the basics of physics in daily life
4- Increasing his physical and structural scientific skills

أهداف المقرر

ان يلم الطالب بقوانين الكهربيه الساكنه والتيار الكهربيه وطبيعة الضوء والانعكاس والانكسار للضوء والاطياف الخطيه وطيف الجسم الاسود وظاهرة التأثير الكهروضوئيه وتركيب النواه وانواع الاشعاع الزاتي وعمر النصف
2- تفهم الظواهر الفيزيائية وكيفية استخدام المفاهيم والقوانين الفيزيائية
3- التعامل مع اساسيات الفيزياء في الحياة اليومية
4- زيادة مهاراته الفيزيائية والبنائية العلمية

Course outline

List of Topics	No. of Weeks	Contact hours
Electric field and Electric Potential	2	6
Capacitors	2	6
Direct Electric Current	1.5	4.5
Nature of Light	0.5	1.5
Reflection of Light	1	3
Refraction of Light	1.5	4.5
Thin Lenses and Optical Instruments	1.5	4.5
Quantum Theory of Light and Atomic Spectra	2	6
Atom and Natural Radioactivity	2	6
Nuclear reactions, Fission and Fusion	1	3

Credit hours distribution:

4 (3+0+1)

3 hours of lectures a week (14 weeks in the semester).

1 hour a week for tutorial.

Marks distribution:

- | | |
|-------------------------------------|------------|
| 1) First Midterm Exam -----M1----- | = 15 marks |
| 2) Second Midterm Exam ---M2----- | = 15 marks |
| 3) Practical Work (Lab.)-----L----- | = 30 marks |
| 4) Final Exam-----F----- | = 40 marks |

Total----- = 100 marks

Chapters Distribution for the Exams:

M1 (Monday , week 7)

M2 (Monday, week 11)

F All the CHAPTERS

Absence Policy:

I. Attendance percentage:

- Student should attend the course lectures during the 15 weeks of the semester.
- Students with absence hours more than 25% of the total course hours will be banned from the Final Exam.

II. Absence from Examinations:

- If you are unable to attend an examination (first or second midterm) owing to illness or other unavoidable circumstances, you should provide an acceptable evidence of 'good cause' for such absence to the competent commission. If the absence is regarded as authorized, student will grant a Makeup Exam only once.
- All Makeup Exams will be scheduled at the same time one week before the Final Exam.
- No other Makeup Exam will be done in the same semester. If you miss the Makeup Exam, you will have a mark of zero.

Textbook adopted and supporting references:

Title of the book اسم الكتاب	Author's name اسم المؤلف	Publisher's name اسم الناشر	Date of publication سنة النشر
Physics for Scientists and Engineering with modern Physics	1- Raymond A. Serway.	SAUNDERS GOLDEN SUNBRUST SERIES , SAUNDERS COLLEGE PUBLISHING	2004
الفيزياء العامة في الكهرباء والضوء والفيزياء الحديثة	: محمد علي آل عيسى، عبدالله السماري و محمد القرعاوي	جامعة الملك سعود	1422

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