



# General lab

**Course Book – (1<sup>st</sup> Year chemistry )**

**Lecturer's name *M.Sc eman abdulmajed saied***

**Academic Year: 2022/2023**

## Course Book

1-Course Name	General physics lab
2-Lecturer in charge	MSc eman abdulmajed saied
3-Department/ College	E-mail: <a href="mailto:eman.saied@su.edu.krd">eman.saied@su.edu.krd</a> Website: <a href="https://academics.su.edu.krd/eman.saied">https://academics.su.edu.krd/eman.saied</a>
4-Contact	Theory: 3.0 (There only) Practical: 2
5-Time(In hours) per week	Theory: 2.0 (There only) Practical: 2
6-Office Hours	At least 30 h/week
7- Course Code	N/A
8- Teacher's academic profile	<p>MSc Salahaddin university , laser physics, 2012 Thesis: "Evidence of AlxSiyOz formation during preparation of aluminum oxide film on the silicon substrate using glass assisted CO<sub>2</sub> laser method"</p> <p>BSc Salahaddin University, physics science , 2007 Graduated v.good</p> <p><i>Journal paper</i> -E.A.saied ,Y.M.Hassan "Characterization of aluminum oxide films on p-type silicon substrate prepared by glass assisted CO<sub>2</sub> laser technique," <i>Indian J Phys</i> (January 2014) 88(1):43–47.</p> <p>-E. A. Saied, M. M. Ismahil &amp; Y. M. Hassan "Laser Irradiation and Temperature Annealing of CuO–Cu<sub>2</sub>O Complex Thin Films" <i>Arabian Journal for Science and Engineering</i> volume 45, pages4921–4927(2020).</p> <p>-Mahira Ismael, Eman Saied &amp; Yousif M. Hassan "Laser-Assisted Spin Coating of Al-Doped ZnO thin Films" <i>Journal of Russian Laser Research</i> volume 41, pages149–155(2020).</p> <p>I was appointed as an assistant lecturer at department of physics/Salahaddin Erbil University. I have taught a wide range of subjects, at undergraduate level, including <a href="#">Laser and Fiber optic</a> [ for academic year 2013-2014 and 2014-2015 for fourth year Physics student in Physic department(communication branch)], <a href="#">Electricity lab</a>, <a href="#">Thermodynamic lab</a>, <a href="#">Nuclear lab</a>, <a href="#">General physics</a>, <a href="#">Medical physics lab</a>, <a href="#">Optic lab</a>, <a href="#">Laser lab</a></p>
9- Keywords	Laser, laser interaction with solid, thin film preparation by laser.

## 10- course objective

In the practical laboratory students take practical principles of the basic laws of classical physics and Newton's laws as well as the characteristics of the material and optical properties of light if the absorption of materials for radiation as scientific experiments have a strong relationship to the theoretical content of students of the Department of Chemistry and includes the first course (4) experiments and the second course (6) experiments 11. Course objective: The course will cover a study of the basic concepts of physics including Newton's laws of motion, gravity, simple harmonic motion, waves and velocity of sound ...etc. The purposes of this course are to know the basic principle of the classical mechanics, and study of the physical and chemical properties of the materials, as well as the study of the nature of light and how the refraction occurs when changing the density of the medium. A study of the law of ohm and know the electromagnetic field by the identification of voltage and current and resistance. The practical experiments focus on the basic principles of object movement and classical physics laws that apply to them. The student benefits from these experiments by applying the physical laws in a practical way by taking readings and graphs. were all (10) two course experiments consist :- 1. Apparatus 2. Method 3. Theory and calculation 4. Graph 5. Writing a report on an experiment weekly

## 11. Student's obligation

- The student are required to do at last two closed exam at the mid of each semester for
- practical
- course beside other assignments. For every experiment the student must prepare full text
- paper
- which includes theory , calculation and discussion ( report ).
- We have also do practical /practical examination
- Ministry of Higher Education and Scientific research

## 12. Forms of teaching

1. Sheet 2. Explain the teacher to the experiments

## 13. Assessment scheme

- All exams have 15 marks, the grades are divided into practical and theoretical parts The grades are divided into practical and theoretical parts where the practical part includes reports with quiz and a theoretical exam for all experiments .So that the final grade will be based upon the following criteria: Reports and quiz 8% Practical 7% And the final exam..... Practical Exam 20%

## 14. Student learning outcome:

The student learns from the practical experiments the scientific instruments for example the tool which in to test validity of Ohm's law using an ammeter and voltmeter also calculating the speed of sound using the fork and calculating the coefficient of viscosity of materials and factors affecting them and the focal length of lenses, but the most important thing to learn is how to take readings (data) and then drawing the data in paper graph for each experiment

## 15. Course Reading List and References: ▪

Practical physics in SI units // book by Armitage ▪ Internet web // YouTube.

## 16. Practical Topics

(If there is any) Course Program ( first semester ) : Week 1: Explain the experiments in general and explain how to write reports and graph for each experiment in a detailed way.

Week 2 -3: Explain the theory and principle of each experimental and distribute students to experiments. Ministry of Higher Education and Scientific research Week 4-5-6-7-8 : Students

