Ministry of Higher Education and Scientific research



Department of General Science College of Basic Education Salahaddin University-Erbil **Subject: Mechanics Laboratory** Course Book – First Year Lecturer: Dr. Mohammed Azeez Saeed Academic Year: 2022/2023

Course Book

1. Course name	Mechanics Laboratory
2. Lecturer in charge	Mohammed Azeez Saeed/Chiman Ibrahim Hussen
3. Department/ College	General Science/Basic Education
4. Contact	e-mail: mohammed.aziz@su.edu.krd
	Tel: 0750 462 2954
5. Time (in hours) per week	Theory:
	Practical: 3 hours/week
6. Office hours	Sunday and Thursday
7. Course code	
8. Teacher's academic	B.Sc. in Physics - Sulaimane University, 1977
Profile	M.Sc. Meteorology and Climatology- Birmingham
	University 1980.
	Ph. D. Astronomy - Baghdad University,2001.
	Teaching and research in the fields Meteorology, Climate
	, Differential Equations, Heat and thermodynamics,
	Mathematical Physics, Solar Radiation and Astronomy
	for over 30 years. Supervising both M.Sc. and Ph.D.
	students. Participating in the oral exsaminations of
	postgraduate students in most of the universities of
	Kurdistan Region.
9 Konwords	

9. Keywords

This laboratory deals with the most experiments on Mechanics subjects.

The experiments are selected carefully to cover and run in parallel with the theoretical part of the subject of Mechanics and Properties of Matter.

The experiments selected consist of 10 experiments in Mechanics and Properties of Matter for first semester.

11. Course objective:

Exp. No. 1: Equation of a straight Line

Exp. No. 2: Volume and density of solids.

Exp. No. 3: The acceleration of free fall using simple pendulum.

Exp. No. 4: The acceleration of gravity using U tube.

Exp. No. 5: Refractive index of glass.

Exp. No. 6: Refractive index of water.

Exp. No. 7: The speed of sound using resonance tube closed at one end.

Exp. No. 8 : Variation of length of Cantilever with fixed mass at the end.

Exp. No.9: Variation of masses with fixed length of the Cantilever.Exp.No.10: To verify Hooke's Law.Exp.No.11: The focal length of convex lens by a graphical method.

Exp.No.12: The focal length of concave mirror by a graphical method.

12. Student's obligation

The students shall participate in discussion of the topics and solving practical examples related to the subjects. The exercises will be given to the students as home works. The students will also be asked to prepare reports on selected topics.

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13. Forms of teaching

Data Show power point presentation and the white board.

14. Assessment scheme

Breakdown of overall assessment and examination Semesters examination (two examinations in a year, each 20%).

15. Student learning outcome:

This subject is concerned with the experimental part of the subject Mechanics and properties of matter. It covers 10 experiments which are expected to cover most of the theoretical part during the first semester.

16. Course Reading List and References:

References:

Practical Physics in SI E Armitage. John Murray 1974.London UK.

17. The Topics:

Lecturer's name

Directorate of Quality Assurance and Accreditation

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18. Practical Topics (If there is any)	
Exp. No. 1: Equation of a straight Line	
Exp. No. 2: Volume and density of solids.	
Exp. No. 3: The acceleration of free fall using simple pendulum.	
Exp. No. 4: The acceleration of gravity using U tube.	
Exp. No. 5: Refractive index of glass.	
Exp. No. 6: Refractive index of water.	
Exp. No. 7: The speed of sound using resonance tube closed at one	end.
Exp. No. 8 : Variation of length of Cantilever with fixed mass at the Exp. No.9: Variation of masses with fixed length of the Cantilever. Exp. No.10: To verify Hooke's Law. Exp.No.11: The focal length of convex lens by a graphical method. Exp.No.12: The focal length of concave mirror by a graphical method.	
 19. Examinations: <i>1. Compositional:</i> In this type of exam the questions usually starts What are the reasons for?, Why?, How? With their typical answers Examples should be provided 	with Explain how,
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2. True or false type of exams:

In this type of exam a short sentence about a specific subject will be provided, and then students will comment on the trueness or falseness of this particular sentence. Examples should be provided

3. Multiple choices:

In this type of exam there will be a number of phrases next or below a statement, students will match the correct phrase. Examples should be provided.

20. Extra notes:

Here the lecturer shall write any note or comment that is not covered in this template and he/she wishes to enrich the course book with his/her valuable remarks.

هاو هڵى ويپيداچوونه 21. Peer review

This course book has to be reviewed and signed by a peer. The peer approves the contents of your course book by writing few sentences in this section. (A peer is person who has enough knowledge about the subject you are teaching, he/she has to be a professor, assistant professor, a lecturer or an expert in the field of your subject).

ئَمكۆر سبووكىدىيىنتاللىتىن اويلانكىئىكادىمىتوى سَيربكرىنتە واوير ۆكى بابَتَكاوىكۆر سَكَتَبِّسَ ودبكات و جَودو شَّئَكَ بىووسىنتالَسَ شياوى واوير ۆكىكۆر سَكَو واژووىلَسَ ربكات. "اوي لْنَو كَسَّتَكَاز اويارى تُ بَيْتالَسَ ركۆر سَتَ ودىيىت پلَىز اوستى لَمامۆستاڭمترۇبېت.

Updated on September 2022, by Dr.Mohammed Azeez Saeed