



Department of General Science

College of Basic Education

University of Salahaddin-Erbil

Subject: Mechanics Laboratory

Course Book – 1st stage

Supervisor's name:

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Co-Supervisor's names:

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Ministry of Higher Education and Scientific research

supervisor gave the permission for that. A lab key will be made available in the Physics Office; it is available only during regular working hours and under the supervisor or one of his assistances as observers.

- Your lab work will be carried out in groups (2-3 student). You must schedule your time so that all group members are present.

Course materials:

Laboratory notebooks: You will need two laboratory notebooks for recording and analyzing data and do not forget to bring your own laboratory XY Data sheet analysis.

Spreadsheets are fine for some analysis and plotting but they can only do simple fitting (linear regression) so they are not adequate for all experiments.

Computer: It is a good idea for each group to have a "standard" RPI laptop computer in the laboratory.

Report structure:

The student has to write their scientific report (if they ask to) at the end of the experiment and before going out of the laboratory. Each student has to write his own report without sharing it with his group partners except for the data only.

Grading:

Your course grade will be determined solely by your report and your answers of the supervisor questions. These will be graded as follows:

- 1- Report preparation :10%
Marks
- 2- Quizzes : 5% Marks
- 3- Final Theoretical/ Practical
Exam : 20% Marks
- 4- Practical Final Marks : 35%

The following are the laboratory experiments titles:

Second semester

1. Investigation about Sound and its velocity.
2. Refractive index of a medium.
3. Focal length of a lens or a mirror.
4. Surface tension of a liquid
5. Specific heat capacity of Solid Substance
6. Boyle's law
7. Viscosity of a liquid
8. Hooke's law.

Course Learning Outcomes

1. Students development conceptual understanding and scientific reasoning skills.
2. Students develop rigorous quantitative understanding of core physical theories.
3. Prepare the student for more practical skills in Physics
4. Develop the practical skills under any conditions with/without offers of necessary Lab instruments.
5. Multi-Installation for the same Lab instruments according to the lesson goals.
6. Preparing the student to compile ideas for a lesson with what is available from devices, laboratory experiments
7. During the experiment itself, the student can collect data or observations.
8. Preparation the student for the market outcomes of learning methods.
9. The ability of knowing and installing experiment's equipment in logic and educated way according to the learning market's requirements.