

# **Orientation Program for Physics Lab Course PH1102**

**(First year BS-MS Students, 2021)**

# PH1102: Experimental Physics I

- **Mode:** Online class
- **Date & Time:** Tuesday, 10:00 am - 1:00pm
- **Instructors:**

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# PH1102: Experimental Physics I

## ➤ Teaching Assistants (TAs):

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# List of experiments

## **Mechanics**

1. Air track: verification of Newton's second law
2. Study of coupled pendulum
3. Reversible Pendulum

## **General Properties of matter**

4. Determination of Young's modulus
5. Surface tension by direct force measurement
6. Determination of the coefficient of viscosity, Stoke's law

# List of experiments

## Thermal Physics:

7. Measurement of heat capacity.

## Electricity & Magnetism

8. Mapping of Electric field Lines

9. Magnetic field mapping

10. Series LCR

11. One ohm construction

# General Information

- Lab Manual - on WE LEARN  
(<https://welearn.iiserkol.ac.in/>)
- Experiments are for two semesters
- We will demonstrate the experiment
- Experimental data will be given
- Data analysis
- Lab notebook - each student should get a notebook



# Writing a Report on Experiment

- Prepare a brief write up on the experiment
- Aim, Theory, Working formula, Diagram
- Perform the experiment (online or given data)
- Tabulate data on lab notebook /Soft copies
- Results: analysis of data , plot (graph paper/plotting software)
- Estimation of error
- Discussions and probable sources of error
- Submit a soft copy of the report on 'Welearn' (Adobe Scan, Kaagaz scanner)

# GRADING

- Continuous evaluation through out the semesters
- Class performance + Submission of Report + Quiz
- End semester Exams

PS: Hands-on experiments during summer/ winter (if the situation allows)



**Enjoy Virtual lab!!**