

Physics Experiments

Syllabus Number

5E188

Special Subjects

Elective 1 credit

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1. Course Description

We will conduct experimental practice on mechanical, thermal, optical, electric circuit, atomic physics. Experimental practice is active learning, therefore students are required to discuss with each other. You need to submit an experiment report by the start of the experiment on the next experiment day. If your report does not reach the passing score, you will be asked to resubmit. In this lesson, you will acquire knowledge about DP1-4.

2. Course Objectives

The aims of this course are to master the fundamental technology of physics experiment and to be able to proceed experiments safely and orderly. Observe deeply and create experiment notes detailing the progress and results of the experiment. Clarify the experiment report (purpose, experiment method, result, consideration) clearly.

3. Grading Policy

Learn how to practice actual experiments, organize data, and create reports. The results will be evaluated based on the reporting point. Being late for the class will be subject to penalty points, and in principle, students are not allowed to attend if they are late for more than 20 minutes. Each time you will be required to pass the report at the end of the class. You can check your learning outcome by creating experiment reports.

4. Textbook and Reference

Textbook

Physics Division, Teikyo University School of Science and Technology Basic Engineering Experiment / Physics Experiment Guidance Manual Teikyo University School of Science and Technology

5. Requirements(Assignments)

Please read the "Physics Experiment Manual" (Teikyo University Faculty of Science and Technology) in advance about 1.5 hours as preliminary study.

By preparing the report properly, it also helps as doing review.

About 1.5 hours as preliminary study, please study "Physics Experiment Guidance Manual" (Teikyo University science and engineering department) in advance, and learn necessary knowledge from other physics textbook such as "Basic Physics" (Yasuo Hara, academic book publisher, ISBN 978-4-7806-0660-7).

As a post-honorary study, prepare a report properly. It takes about 1.5 hours or longer to complete the report.

6. Note

It is a subject for teacher training course registrants.

Please prepare a scientific calculator, experiment notebook, A4 graph paper (grid, half log, double log), A4 size report paper by each person.

Schedule of experiments and other communication matter will be posted on the bulletin board in front of the physical preparation room also on the homepage:

<http://www.ase.teikyo-u.ac.jp/faculty/nakamura/>

We select 5 themes from the dynamics, thermography, optics, electromagnetics, experiments theme, and we will carry out by taking turns every time for each group.

For new experiments, you may upload the file to the homepage. Place hints for creating reports on the homepage.

<http://www.ase.teikyo-u.ac.jp/faculty/nakamura/>

7. Schedule

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|-----|-----------------------------------|
| [1] | Guidance |
| [2] | Experiment Practice 1st |
| [3] | Experimental practice 2nd |
| [4] | Experimental Practice 3rd |
| [5] | Experimental Practice 4th |
| [6] | Experimental Practice 5th |
| [7] | Supplementary experiment |
| [8] | Report final submission / grading |
| [9] | Experiment reserved day |