

Physics 1

Syllabus Number

4B106

Basic Major Subjects

Elective 2 credit

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1. Course Description

Students will learn the fundamentals of mechanics. By showing many examples, students will be able to calculate the motions of objects. In this class, students will acquire knowledge about DP1.

2. Course Objectives

Students can understand the foundation of physical mechanics. Students will be able to numerically describe the motion of the object.

3. Grading Policy

Evaluation will be based on reports (40%) and results of final exams (60%).

4. Textbook and Reference

Textbook

Basic Physics Education Study Group やさしく学べる基礎物理 Morikita Publishing

5. Requirements(Assignments)

Please always prepare and review for the class by using textbook (about 1.5 hour each).
The contents of the class are in accordance with the chapters and contents of the textbook.

6. Note

Please use a scientific calculator for exercises.

7. Schedule

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|------|---|
| [1] | What is speed? |
| [2] | Equal acceleration linear motion |
| [3] | Force |
| [4] | Law of motion (1) |
| [5] | Law of motion (2) |
| [6] | Momentum and impulse (1) |
| [7] | Work |
| [8] | Law of conservation of energy |
| [9] | Various movement of an object : motion of an object thrown horizontally |
| [10] | Various movement of an object : frictional force |
| [11] | Various movement of an object : constant velocity circular motion |
| [12] | Various movement of an object : simple vibration |
| [13] | Force acting on a rigid body |
| [14] | Deformation and elasticity |
| [15] | Summary and test |