City University of Hong Kong

Information on a Course
offered by Department of Physics and Materials Science
with effect from Semester A in 2013 / 2014

Part I

Course Title: General Physics I
Course Code: AP1201
Course Duration: One semester
No of Credit Units: 3
Level: B1

Medium of Instruction: English

Prerequisites: HKDSE Mathematics Compulsory Part or equivalent

Precursors: HKDSE Physics or Combined Science (Physics, Chemistry) or Combined Science (Biology, Physics) or AP1200 Foundation Physics

Equivalent Courses: Nil

Exclusive Courses: Nil

Part II

1. Course Aims:

This course covers a wide scope of topics in physics including mechanics, heat and gases, wave and optics. Students will investigate the fundamentals of these topics and become able to apply them to solve real problems in science and engineering. This course equips students with a broad knowledge in several important topics in Physics and the depth and coverage are sufficient for the students to pursue a number of the science and engineering majors.
2. Course Intended Learning Outcomes (CILOs)

*Upon successful completion of this course, students should be able to:*

<table>
<thead>
<tr>
<th>No</th>
<th>CILOs</th>
<th>Level of Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Recognize and use appropriately important technical terms and definitions relevant to the major topics in the course.</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Use appropriate mathematical notation such as vector to formulate and apply the physical laws covered in the course in concise form.</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Apply physics laws of mechanics, heat and gases, as well as wave and optics in familiar situations.</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Solve real and hypothetical problems by identifying the underlying physics and analyzing the problem.</td>
<td>2</td>
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</tbody>
</table>

Remarks: 1 is the least importance

3. Teaching and Learning Activities (TLAs)
*(designed to facilitate students’ achievement of the CILOs)*

<table>
<thead>
<tr>
<th>ILO no</th>
<th>TLAs</th>
<th>Total no of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3</td>
<td>Lectures</td>
<td>26 hrs</td>
</tr>
<tr>
<td>4</td>
<td>Problem solving</td>
<td>6 - 9 hrs in class; 24 hrs homework (plus other hrs of self-study)</td>
</tr>
<tr>
<td>1, 3, 4</td>
<td>Laboratory</td>
<td>3 - 6 hrs in laboratory, 6 hrs preparation and analysis at home</td>
</tr>
</tbody>
</table>

4. Assessment Tasks/Activities
*(designed to assess how well the students achieve the CILOs)*

Examination duration: 2 hrs
Percentage of coursework, examination, etc.: 30% by coursework; 70% by exam
To pass the course, students need to achieve at least 30% in the examination.

<table>
<thead>
<tr>
<th>ILO no</th>
<th>Type of assessment tasks/activities</th>
<th>Weighting (if applicable)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3, 4</td>
<td>Homework</td>
<td>25%</td>
<td>These two assessment tasks constitute the coursework.</td>
</tr>
<tr>
<td>1, 3, 4</td>
<td>Laboratory exercise and report</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>1, 2, 3, 4</td>
<td>Examination</td>
<td>70%</td>
<td></td>
</tr>
</tbody>
</table>
5. **Grading of Student Achievement**: Refer to Grading of Courses in the Academic Regulations

The grading is assigned based on students’ performance in assessment tasks/activities.

**Grade A**
The student completes all assessment tasks/activities and the work demonstrates excellent understanding of the scientific principles and the working mechanisms. He/she can thoroughly identify and explain how the principles are applied to science and technology for solving physics and engineering problems. The student’s work shows strong evidence of original thinking, supported by a variety of properly documented information sources other than taught materials. He/she is able to communicate ideas effectively and persuasively via written texts and/or oral presentation.

**Grade B**
The student completes all assessment tasks/activities and can describe and explain the scientific principles. He/she provides a detailed evaluation of how the principles are applied to science and technology for solving physics and engineering problems. He/she demonstrates an ability to integrate taught concepts, analytical techniques and applications via clear oral and/or written communication.

**Grade C**
The student completes all assessment tasks/activities and can describe and explain some scientific principles. He/she provides simple but accurate evaluations of how the principles are applied to science and technology for solving physics and engineering problems. He/she can communicate ideas clearly in written texts and/or in oral presentations.

**Grade D**
The student completes all assessment tasks/activities but can only briefly describe some scientific principles. Only some of the analysis is appropriate to show how the principles are applied to science and technology for solving physics and engineering problems. He/she can communicate simple ideas in writing and/or orally.

**Grade F**
The student fails to complete all assessment tasks/activities and/or cannot accurately describe and explain the scientific principles. He/she fails to identify and explain how the principles are applied to science and technology for solving physics and engineering problems objectively or systematically. He/she is weak in communicating ideas and/or the student’s work shows evidence of plagiarism.
Part III

Keyword Syllabus:


Recommended Reading:
Text(s):