## Course Aims

This course aims to show the fundamental role of physics in building up computing systems and computer applications. You will be exposed to various selected physics topics (Heat, Mechanics, Optics, Electricity and Magnetism), with which, many useful physics-computing systems have been developed and changed our daily life. This course serves you as an introductory general education course to encourage you for interdisciplinary thinking and exploration. The first four weeks of this course is from PH1012 offered by Division of Physics and Applied Physics, SPMS, NTU, so that you have the opportunity to learn with other engineering students in different disciplines for knowledge sharing.

## Intended Learning Outcomes (ILO)

This course introduces physics used in computing systems at an elementary level. Upon the successful completion of this course, you shall be able to:

1. Explain basic knowledge (definitions, principles and techniques) of all the selected topics;
2. Identify the contribution of physics in some computing systems;
3. Discuss the interdisciplinary nature of many innovative systems;
4. Reflect the importance and the recent progress of Physics, to prepare to propose novel physics-computing systems in the future.
Course Content

<table>
<thead>
<tr>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Topics from PH1012</td>
</tr>
<tr>
<td>2 Optics and Applications</td>
</tr>
<tr>
<td>3 NFC/Electricity and Magnetism</td>
</tr>
<tr>
<td>4 EEG/Electrical Potential</td>
</tr>
</tbody>
</table>

Assessment (includes both formative and summative assessment) CE/CZ1113

a) Quizzes and/or reports: 80%
b) Lab Exercises: 20%

Note:
School reserves the right that content and assessment criteria may be adjusted during a given semester possibly because of circumstantial reasons. Any such changes will be discussed with the students enrolled in a given semester.

Reading and References

References:
1. Lecture notes created for the course by the lecturers, as well as other reading materials and online resources curated by the lecturers.