City University of Hong Kong Course Syllabus

offered by Department of Physics with effect from Semester A 2024/25

Part I Course Overview

| Course Title: | Special Topics in Physics |
|---|---------------------------|
| Course Code: | PHY8273 |
| Course Duration: | One Semester |
| Credit Units: | 3 |
| Level: | R8 |
| Medium of Instruction: | English |
| Medium of Assessment: | English |
| Prerequisites: (Course Code and Title) | Nil |
| Precursors: (Course Code and Title) | Nil |
| Equivalent Courses : (Course Code and Title) | Nil |
| Exclusive Courses: (Course Code and Title) | Nil |

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Part II Course Details

1. Abstract

This is an advanced course on a contemporary topic in Pure and/or Applied Physics. The topic will be announced in advance when this course is offered. It will provide a useful supplement to the advanced courses already specified in the programme and to motivate the students for discovery and innovation.

2. Course Intended Learning Outcomes (CILOs)

| No. | CILOs | Weighting (if applicable) | Discovery-enriched curriculum related learning outcomes | | | |
|-----|--|---------------------------|---|--------------|-----------|--|
| | | 7 | Al | A2 | A3 | |
| 1. | Be aware of the current development in selected areas | 20 | $\sqrt{}$ | \checkmark | $\sqrt{}$ | |
| | in Physics. | | | | | |
| 2. | Relate the covered progress to fundamental principles | 30 | √ | \checkmark | V | |
| | in Physics. | | | | | |
| 3. | Apply some of the current development in new and | 30 | √ | \checkmark | √ | |
| | useful applications. | | | | | |
| 4 | Identify state-of-the-art developments in the relevant | 20 | √ | 1 | √ | |
| | area and to form opinions on specific issues, and | | | | | |
| | participate in discovery and innovation. | | | | | |
| | | 100% | | | | |

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Learning and Teaching Activities (LTAs)

| LTA | Brief Description | CILO No. | | | | | | Hours/week |
|-----|-------------------|-----------|-----------|-----------|---|-------------|---|-----------------|
| | | 1 | 2 | 3 | 4 | | | (if applicable) |
| 1 | Lecture | $\sqrt{}$ | $\sqrt{}$ | $\sqrt{}$ | | 26/semester | 1 | Lecture |
| 2 | Tutorial | V | V | $\sqrt{}$ | V | 13/semester | 2 | Tutorial |

4. Assessment Tasks/Activities (ATs)

| Assessment Tasks/Activities | CILO No. | | | | | | Weighting | Remarks |
|-----------------------------|----------|---|---|-----------|--|--|-----------|---------|
| | 1 | 2 | 3 | 4 | | | | |
| Continuous Assessment: 100% | | | | | | | | |
| Written reports | | | | | | | 80% | |
| Oral presentations | | | | $\sqrt{}$ | | | 20% | |
| Examination: 0% | | | | | | | | |

100%

5. Assessment Rubrics

Applicable to students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter

| Assessment Task | Criterion | Excellent | Good | Fair | Marginal | Failure |
|-----------------------|--|-------------|-------------|-------------|----------|-----------------------------|
| | | (A+, A, A-) | (B+, B, B-) | (C+, C, C-) | (D) | (F) |
| 1. Written reports | The student can thoroughly identify and explain how the principles are applied to science and technology for solving physics and engineering problems. | High | Significant | Moderate | Basic | Not reaching marginal level |
| 2. Oral presentations | The student can thoroughly identify and explain how the principles are applied to science and technology for solving physics and engineering problems. | High | Significant | Moderate | Basic | Not reaching marginal level |

Applicable to students admitted from Semester A 2022/23 to Summer Term 2024

| Assessment Task | Criterion | Excellent | Good | Marginal | Failure |
|--------------------|------------------------------|-------------|----------|-------------|-----------------------|
| | | (A+, A, A-) | (B+, B) | (B-, C+, C) | (F) |
| 1. Written reports | The student can thoroughly | High | Moderate | Basic | Not reaching marginal |
| | identify and explain how the | | | | level |
| | principles are applied to | | | | |
| | science and technology for | | | | |
| | solving physics and | | | | |
| | engineering problems. | | | | |
| 2. Oral | The student can thoroughly | High | Moderate | Basic | Not reaching marginal |
| presentations | identify and explain how the | | | | level |
| | principles are applied to | | | | |
| | science and technology for | | | | |
| | solving physics and | | | | |
| | engineering problems. | | | | |

Part III Other Information

Keyword Syllabus 1.

To be specified once the topic is fixed.

- 2.
- Reading List Compulsory Readings 2.1

2.2 Additional Readings

To be specified.