

The Chinese University of Hong Kong
Faculty of Science
Science Academy for Young Talent

Autumn Courses 2020
Course Outline

CUSA1075 Wonderful World of Physics
奇妙的物理世界

Introduction:

This course is designed for students to learn about some basic physics topics and the important role of physics in understanding the way nature works. This course also allows students to learn the applications and development of physics in the modern world. Students will learn the basic physics topics including motions and forces, optics and waves, electricity and electric circuits, energy, etc.

This course includes lectures and hands-on experimental sessions.

本課程的設計旨在讓同學學習到一些基礎物理學課題及物理學在了解大自然運作的重要性。課程同時讓同學認識物理學在現代世界中的應用和發展。同學在課程中將學習到運動與力、光學與波動、電與電路、能量等課題。課程以講課及實驗形式進行。

Medium of Instruction: Cantonese supplemented with English

Organising Unit: Department of Physics, Faculty of Science, CUHK

Teachers:

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Course Content:

14 November 2020 (Saturday) 9:30 am – 12:30 am	-- Kinematics of translation motion -- Vectors -- Newton's laws of motion -- Assessment 1
21 November 2020 (Saturday) 9:30 am – 12:30 pm	-- Uniform circular motion -- Newton's law of gravitation -- Kepler's laws of planetary motion -- Assessment 2
28 November 2020 (Saturday) 9:30 am – 12:30 pm	-- Electricity, voltage and current -- Resistance and Ohm's law -- Equivalent resistance -- Assessment
5 December 2020 (Saturday) 9:30 am – 12:30 pm	-- Power in electric circuit -- Kirchhoff's laws -- Assessment
12 December 2020 (Saturday) 9:30 am – 12:30 pm	-- Geometric optics -- Mirrors and lenses -- Simple Optical Instrument
19 December 2020 (Saturday) 9:30 am – 12:30 pm	-- Optical Phenomena in Nature -- Light and Wave motions -- Online Demonstrations (Optional) -- Assessment 3
23 December 2020 (Wednesday) 9:30 am – 12:30 pm	Make-up Class

Duration	6 half day sessions (total 18 contact hours)
Date	14, 21, 28 November, 5, 12, 19 December 2020 23 December 2020* (make-up class)
Time	9:30 am – 12:30 am
Teaching Platform	Online Teaching (ZOOM)
Enrollment	24
Expected applicants	Students who are promoting to S2-S3
Tuition Fee	HKD 2,544.00
Credit	1.25 Academy Unit Certificates or letters of completion will be awarded to students who attain at least 75% attendance.

* This date is reserved for make-up classes in case there is any cancellation of classes due to unexpected circumstances.