

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

Summer Courses 2019
Course Outline

SAYT1005 Introduction to University Physics
大學物理入門

Introduction:

Systematically introduce the basic concepts for university physics in mechanics, including the concept of vectors, motions in 2 dimensions and 3 dimensions, and the relation between force and motion described by Newton's three fundamental laws. It will lay a solid foundation for the students to start the physics courses at the university level.

本課程將系統講授大學物理的力學，包括矢量、運動學、以及運動與受力的關係。牛頓三大定律在平動與轉動中的應用、動量與能量守恆等關鍵物理知識將是本課程強調的重點。本課程將為學生的大學物理學習打下堅實的基礎。

Medium of Instruction: English

Organising Unit:

Department of Physics, Faculty of Science, CUHK

Teacher:

Prof. Xu Lei

Department of Physics, Faculty of Science, CUHK

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Demonstrator:

To be determined

Course Content:

12 August 2019 (Monday)	9:30 am – 12:00 pm	<u>Lecture:</u> • Ch0-Introduction, Ch1-Vectors and Motion <u>Assessment:</u> Attendance, homework
13 August 2019 (Tuesday)	9:30 am – 12:00 pm	<u>Lecture:</u> • Ch1.5-Motion in 2D and 3D <u>Assessment:</u> Attendance, homework
14 August 2019 (Wednesday)	9:30 am – 12:00 pm	<u>Lecture:</u> • Ch2-Force and Motion <u>Assessment:</u> Attendance, homework
15 August 2019 Thursday	9:30 am – 12:00 pm	<u>Lecture:</u> • Ch3-Kinetic Energy <u>Assessment:</u> Attendance, homework
16 August 2019 (Friday)	9:30 am – 12:00 pm	<u>Lecture:</u> • Ch4-Potential Energy and Energy Conservation <u>Assessment:</u> Attendance, homework
19 August 2019 (Monday)	9:30 am – 12:00 pm	<u>Lecture:</u> • Ch5-Momentum Conservation <u>Assessment:</u> Attendance, homework
20 August 2019 (Tuesday)	9:30 am – 12:00 pm	<u>Lecture:</u> • Ch6-Rotation and Moment- Part I <u>Assessment:</u> Attendance, homework
21 August 2019 (Wednesday)	9:30 am – 12:00 pm	<u>Lecture:</u> • Ch6-Rotation and Moment- Part II <u>Assessment:</u> Attendance, homework
22 August 2019* (Thursday)	9:30 am – 12:00 pm	Make up class

Duration	8 half day sessions (total 20 contact hours)
Date	12 – 16, 19 – 21 August 2019 22 August 2019 (make-up class)
Time	12 – 16, 19 – 21 August 2019: 9:30 am – 12:00 pm 22 August 2019*: 9:30 am – 12:00 pm (make-up class)
Venue	The Chinese University of Hong Kong
Enrollment	15 – 40
Expected applicants	Students promoting to or studying S5 - S6
Tuition Fee	HKD 3,250.00
Credit	1 University 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 bad weather or other factors.