

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

Autumn Courses 2024
Course Outline

CUSA3003 Biological Science Student Knowledge Enhancement Course
生命科學學生知識增進課程

Introduction: The 'Biological Science Knowledge Enhancement Course' is designed specifically for Form 4 to Form 6 students, who are interested in Biological Science. The course is composed of two modules. In Module I of this course, the objectives are to provide the students with basic principles and concepts related to biological science. In Module II, the objectives are to provide the students with more specific knowledge related to the applications of biological science.

「生命科學學生知識增進課程」是專為中四至中六對生命科學感興趣的學生而設的知識增潤課程。此課程分為兩個單元。課程第一單元的目標為介紹生命科學中的基本理論和概念。在第二單元，本課程將進一步向學生介紹一些生命科學中較為深入的知識及應用。

Medium of Instruction: Cantonese supplemented with English
粵語輔以英語

Organising Unit: Biochemistry Programme, School of Life Sciences, Faculty of Science, CUHK

Teachers:



Dr. LO Fai Hang (羅輝恒博士)

Lecturer

School of Life Sciences, CUHK

Rm. G83, Science Centre, CUHK

Tel: 3943 5019, E-mail: lofaihang@cuhk.edu.hk

Demonstrators: Students from Programme of Biochemistry, School of Life Sciences, CUHK

Course Content:

2 November 2024 (Saturday) 10:00 am – 1:00 pm 2:00 pm – 5:30 pm	<u>Lecture:</u> <ul style="list-style-type: none"> • Introduction to biomolecules • Understanding metabolism • Introduction to cells
9 November 2024 (Saturday) 10:00 am – 1:00 pm 2:00 pm – 5:30 pm	<u>Lecture:</u> <ul style="list-style-type: none"> • Understanding physiology • Basic molecular biology and molecular genetics • Introduction to immunology and haematology • Understanding microbiology and infectious diseases • Basic neurobiology • Basic endocrinology
16 November 2024 (Saturday) 10:00 am – 1:00 pm 2:00 pm – 5:30 pm	<u>Lecture:</u> <ul style="list-style-type: none"> • Understanding physiology • Basic molecular biology and molecular genetics • Introduction to immunology and haematology • Understanding microbiology and infectious diseases • Basic neurobiology • Basic endocrinology
23 November 2024 (Saturday) 10:00 am – 1:00 pm 2:00 pm – 5:30 pm	<u>Lecture:</u> <ul style="list-style-type: none"> • Understanding physiology • Basic molecular biology and molecular genetics • Introduction to immunology and haematology • Understanding microbiology and infectious diseases • Basic neurobiology • Basic endocrinology
14 December 2024* (Saturday) 10:00 am – 1:00 pm 2:00 pm – 5:30 pm	Make-up Class

Date	2, 9, 16, and 23 November 2024 (26 hours)				
Time	10:00 am – 1:00 pm; 2:00 pm – 5:30 pm				
Teaching Mode	Face to Face (The Chinese University of Hong Kong)				
Enrollment	30 – 50				
Expected Applicants	Students who are promoting or studying S4 – S6 who are interested in biomedical sciences				
Tuition Fee	HKD 3,660.00				
Credit	1.75 Academy Unit(s) <i>Students can accumulate credits which will be regarded as “Other Learning Experience” when applying University.</i>				
Grading Methods		<i>Certificate</i>	<i>Assessment</i>	<i>Attendance</i>	<i>Credit(s)</i>
	Distinction	<i>Certificate of Distinction</i>	<i>Excellent</i>	<i>>75%</i>	<i>0.25</i>
	Pass	<i>Certificate of Merit</i>	<i>Pass</i>	<i>>75%</i>	<i>0.25</i>
	Attended	<i>Certificate of Attendance</i>	<i>Fail</i>	<i>>75%</i>	<i>0</i>
	Fail	<i>N/A</i>	<i>Fail</i>	<i>N/A</i>	<i>0</i>

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SAYT1005 Introduction to University Physics
大學物理入門

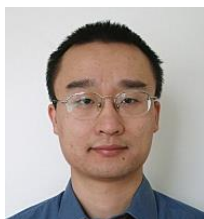
Introduction: Systematically introduce the basic concepts for university physics in mechanics, including the concept of vectors, motions in 2 dimensions and 3 dimensions, and the relation between force and motion described by Newton's three fundamental laws. It will lay a solid foundation for the students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

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

Teachers:



Prof. XU Lei (徐磊教授)

Professor

Department of Physics, Faculty of Science, CUHK

Rm. G06, Science Centre, CUHK

Tel: 3943 6307, Email: xulei@phy.cuhk.edu.hk

Homepage: <http://www.phy.cuhk.edu.hk/~xulei/homepage/>

Course Content:

19 October 2024 (Saturday) 9:30 am – 12:00 nn	<u>Lecture:</u> <ul style="list-style-type: none"> Ch0-Introduction, Ch1-Vectors and Motion <u>Assessment:</u> Attendance, homework
26 October 2024 (Saturday) 9:30 am – 12:00 nn	<u>Lecture:</u> <ul style="list-style-type: none"> Ch1.5-Motion in 2D and 3D <u>Assessment:</u> Attendance, homework
2 November 2024 (Saturday) 9:30 am – 12:00 nn	<u>Lecture:</u> <ul style="list-style-type: none"> Ch2-Force and Motion <u>Assessment:</u> Attendance, homework
9 November 2024 (Saturday) 9:30 am – 12:00 nn	<u>Lecture:</u> <ul style="list-style-type: none"> Ch3-Kinetic Energy <u>Assessment:</u> Attendance, homework
16 November 2024 (Saturday) 9:30 am – 12:00 nn	<u>Lecture:</u> <ul style="list-style-type: none"> Ch4-Potential Energy and Energy Conservation <u>Assessment:</u> Attendance, homework
23 November 2024 (Saturday) 9:30 am – 12:00 nn	<u>Lecture:</u> <ul style="list-style-type: none"> Ch5-Momentum Conservation <u>Assessment:</u> Attendance, homework
30 November 2024 (Saturday) 9:30 am – 12:00 nn	<u>Lecture:</u> <ul style="list-style-type: none"> Ch6-Rotation and Moment- Part I <u>Assessment:</u> Attendance, homework
7 December 2024 (Saturday) 9:30 am – 12:00 nn	<u>Lecture:</u> <ul style="list-style-type: none"> Ch6-Rotation and Moment- Part II <u>Assessment:</u> Attendance, homework
14* December 2024 (Saturday) 9:30 am – 12:00 nn	Make-up Class

Date	19, 26 October, 2, 9, 16, 23 November, 7, 14* December 2024 (20 hours)				
Time	9:30 am – 12:00 nn				
Teaching Mode	Face to Face (The Chinese University of Hong Kong)				
Enrollment	20 – 40				
Expected Applicants	Students who are promoting to or studying S5 – S6				
Tuition Fee	HKD 3,300.00				
Credit	1 University Unit(s) <i>Students who complete the course and meet its requirement can opt for credit exemption when studying at CUHK.</i>				
Grading Methods	<i>Certificate</i>	<i>Assessment</i>	<i>Attendance</i>	<i>Credit(s)</i>	
	A to A-	<i>Certificate of Distinction</i>	<i>Excellent</i>	<i>>75%</i>	<i>1</i>
	B+ to D	<i>Certificate of Merit</i>	<i>Pass</i>	<i>>75%</i>	<i>1</i>
	Attended	<i>Certificate of Attendance</i>	<i>Fail</i>	<i>>75%</i>	<i>0</i>
	F	<i>N/A</i>	<i>Fail</i>	<i>N/A</i>	<i>0</i>

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CUSA1075 Wonderful World of Physics
奇妙的物理世界

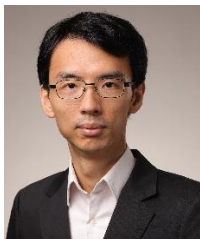
Introduction: This course is designed for students to learn about some basic physics topics and the important role of physics in understanding the way nature works. This course also allows students to learn the applications and development of physics in the modern world. Students will learn the basic physics topics including motions and forces, optics and waves, electricity and electric circuits, energy, etc. This course includes lectures 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。課程以講課進行。

Medium of Instruction: Cantonese supplemented with English
粵語輔以英語

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

Teachers:



Dr. LAI Yu Hang Marco (賴裕衡博士)

Lecturer

Department of Physics, CUHK

Rm. 216A, Science Centre North Block, CUHK

Tel: 3943 4076, E-mail: yhmlai@phy.cuhk.edu.hk



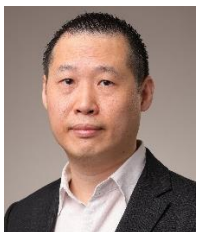
Dr. LEUNG Po Kin (梁寶建博士)

Senior Lecturer

Department of Physics, CUHK

Rm. 220, Science Centre North Block, CUHK

Tel: 3943 4078, E-mail: pkleung@cuhk.edu.hk



Dr. LIN Lap Ming (練立明博士)

Senior Lecturer

Department of Physics, CUHK

Rm. 221, Science Centre North Block, CUHK

Tel: 3943 4072, E-mail: lmlin@phy.cuhk.edu.hk

Course Content:

9 November 2024 (Saturday) 9:30 am – 12:30 pm	(3 hours: Dr. Lin Lap Ming) -- Kinematics of translation motion -- Vectors -- Assessment
16 November 2024 (Saturday) 9:30 am – 12:30 pm	(3 hours: Dr. Lin Lap Ming) -- Newton's laws of motion -- Assessment
23 November 2024 (Saturday) 9:30 am – 12:30 pm	(3 hours: Dr. Lai Yu Hang Marco) -- Geometric optics -- Simple Optical Instrument -- Assessment
30 November 2024 (Saturday) 9:30 am – 12:30 pm	(3 hours: Dr. Lai Yu Hang Marco) -- Optical Phenomena in Nature -- Light and Wave motions -- Assessment
7 December 2024 (Saturday) 9:30 am – 12:30 pm	(3 hours: Dr. Leung Po Kin) -- Electricity, voltage and current -- Resistance and Ohm's law -- Equivalent resistance -- Assessment
14 December 2024 (Saturday) 9:30 am – 12:30 pm	(3 hours: Dr. Leung Po Kin) -- Kirchhoff's laws -- Power in electric circuits -- Assessment
21 December 2024* (Wednesday) 9:30 am – 12:30 pm	Make-up Class

Date	9, 16, 23, 30 November 2024, 7, 14, 21* December 2024 (18 hours)				
Time	9:30 am – 12:30 pm				
Teaching Mode	Face to Face (The Chinese University of Hong Kong)				
Enrollment	25 – 30				
Expected Applicants	Students who are promoting to or studying S2 – S3				
Tuition Fee	HKD 3,380.00				
Credit	1.25 Academy Unit(s) <i>Students can accumulate credits which will be regarded as “Other Learning Experience” when applying University.</i>				
Grading Methods		<i>Certificate</i>	<i>Assessment</i>	<i>Attendance</i>	<i>Credit(s)</i>
	Distinction	<i>Certificate of Distinction</i>	<i>Excellent</i>	<i>>75%</i>	<i>1.25</i>
	Pass	<i>Certificate of Merit</i>	<i>Pass</i>	<i>>75%</i>	<i>1.25</i>
	Attended	<i>Certificate of Attendance</i>	<i>Fail</i>	<i>>75%</i>	<i>0</i>
	Fail	<i>N/A</i>	<i>Fail</i>	<i>N/A</i>	<i>0</i>

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