Department of

PHYSICS

物理系

The Chinese University of Hong Kong

香港中文大學

JOIN US!

Master of Science (MSc) in Physics

Aim and Scope

With the longest history in Hong Kong (since 1994), our MSc in Physics programme has been nurturing students who seek to deepen and broaden their understanding of physics through taught courses. Through a series of learning activities that combine lectures, laboratories, guided studies, projects and dissertation, the programme provides students with advanced knowledge of physics in different branches, spanning from classical to quantum and from theory to experiment. At the same time, it strengthens students on different skills such as critical analysis, problem solving, communication, and research. It has been preparing students for different job prospects in education, research, industry and commerce, and further study. The MSc programme complements the mission of the Department to advance knowledge, to serve the community in Hong Kong and the proximal region, and to transfer scientific knowledge to the public.

About the Department

The Department of Physics is a vibrant team consisting of ~230 undergraduate students, ~260 postgraduate students, 27 professorial staff, 5 research assistant professors, 7 lecturers/senior lecturers/principal lecturers, and 25 technical/supporting staff. The Department is among the top in South East Asia and has been attracting the best physics students in the proximal region. Faculty staffs in the Department are active in research and have established research collaboration with scientists in world-class institutions. At the same time, the Department has a long tradition in providing high quality education at both undergraduate and graduate levels.

Programme Information

This is a coursework-based master degree programme. Students may also enroll in Guided Study and Project courses offered on a one-to-one or small-group settings to acquire knowledge and hands-on experience in both fundamental physics and cutting-edge research. Students may also opt to work on a dissertation.

School Start Date

1 September 2027

Study Modes and Duration

Full-time: 1 year
Part-time: 2 years

Medium of Instruction

English

Tuition Fee (2027-28)

Full-time: HK$199,200 per annum
Part-time: HK$ 99,600 per annum

(For courses taken beyond the normative study period, tuition fees will be charged per unit enrolled. The per-unit fee is the prevailing tuition fee divided by 24.)

Non-local fresh graduates may apply to stay in Hong Kong for 12 months after graduation to seek jobs under the Immigration Arrangement for Non-local Graduates (IANG) scheme.

SCAN ME

Website: https://wp.phy.cuhk.edu.hk/postgraduate-admissions/msc-in-physics
E-mail: msc-adm@phy.cuhk.edu.hk
Phone: 852-3943-6302

CUHK SCI

Programme Requirements

Coursework requirement

There is no compulsory course requirement and students are free to select courses to suit their interest and own study plan. Students are required to complete a minimum of 24 units of physics courses at 5000-level for graduation. With the permission of the Division, up to 3 units of physics (PHYS) courses at 4000-level and/or 6 units of materials science and engineering (MSEG) courses at 5000-level may be substituted.

Other requirements

Students must achieve a cumulative grade point average (GPA) of at least 2.0 in order to fulfill the graduation requirement, unless special approval is granted.

Courses offered in the recent two years

MSEG 5020M[d] Frontiers in Material Science
MSEG 5040M[d] Electron Microscopy
PHYS 5061M[d] From Computational Physics to AI
PHYS 5110[e] Fundamentals of Classical Mechanics and Special Relativity
PHYS 5120[e] Fundamentals of Modern Quantum Mechanics
PHYS 5130[e] Principles of Thermal and Statistical Physics
PHYS 5140[e] Classical Electromagnetic Theory
PHYS 5160[d] Computational Physics
PHYS 5330M[d] Instrumentation I
PHYS 5350M[d] Techniques in Materials Characterization
PHYS 5410M[d] Advanced Quantum Mechanics
PHYS 5420M[d] Classical Electrodynamics
PHYS 5430M[d] Solid State Theory
PHYS 5450M[d] Introduction to Soft Matter Physics
PHYS 5510M[d] Advanced Statistical Mechanics
PHYS 5520M[d] Introduction to Many-body Theory
PHYS 5550M[d] Quantum Optics
PHYS 5562M[d] Astrophysics
PHYS 5590M[d] Modern Atomic Physics
PHYS 5610M[d] Introduction to Biophysics
PHYS 5620M[d] Thin Film Physics and Technology
PHYS 5660M[d] Semiconductor Physics and Devices
PHYS 5710/5720/5730[o] Guided Study I/II/III
PHYS 5990[o] Project III
PHYS 5991[o] MSc Dissertation

[d] courses offered during the day
[e] courses offered in the evening
[o] courses offered on a one (teacher)-on-one or one-on-several basis, course schedule to be determined by course teacher and approval from course teacher is required prior to course registration

Note: Not all courses may be offered in an academic year

Entry Requirements

Degree requirement

Applicants should hold, or expect to hold by the time of admission, a Bachelor's degree in Science or Engineering, or have sufficient preparation in Physics if the first degree is in other disciplines, normally with Second Class Honours or overall average result of B or above.

English language requirement

Applicants must fulfill the University's English language proficiency requirement, e.g., provide TOEFL (iBT: ≥79/120 or 4.5/6) or IELTS (Band ≥6.5) score report.

How to Apply

1. Submit application form on Internet *http://www.gs.cuhk.edu.hk/apply*
2. E-mail will be sent to applicants within 1 week after submission of application. Follow the instructions in the e-mail and submit required documents (e.g. copy of official transcript, CV, recommendations, etc.) to our Division by the deadline.
3. Admission notification will be sent to successful applicants via e-mail.

Application Deadline:

15 May 2027

[Applications will be processed on a rolling basis until all places have been filled. Therefore, early applications are strongly encouraged!]

What Our Graduates Say

"The CUHK MSc in Physics programme has been immensely rewarding! Its comprehensive curriculum spans from classical mechanics to PhD-level courses in condensed matter and quantum mechanics, catering to students from both physics and non-physics backgrounds. You can engage directly with outstanding professors in your field of interest, even collaborating on cutting-edge research projects. Whether your aspirations lie in academic pursuits, industrial R&D, or physics education, this programme provides tailored development opportunities. My exceptionally talented peers came with diverse academic and professional backgrounds - from optoelectronic engineers to experienced high school physics teachers - and our vibrant exchanges proved invaluable."

G. H. Qin '25
Subsequently working in Shanghai

"This program stands out for its flexibility, as there are no mandatory core courses - students are free to select eight electives based on their interests and career goals. It is particularly suitable for non-physics majors like me who aspire to pursue a research career in physics. The program offers four dedicated mechanics courses tailored for MSc students, which cover advanced topics while also reviewing undergraduate-level knowledge. In addition, students can dedicate up to half of their coursework to research-focused components such as Guided Studies, Projects, or MSc Dissertations, where they can conduct literature reviews and work on research projects with faculty on a one-on-one basis."

J. H. Wu '23
2025 MPhil graduate; PhD student at University of Wisconsin-Madison

"After one year in the MSc program, I have appreciated the flexibility in course selection. This flexibility allowed me to choose courses that genuinely interested me, such as a guided study with Prof. Yan and PHYS5061, where I learned to simulate simple physical systems - an invaluable skill for my future career. The courses were well-designed and appropriately challenging, making even tough subjects like Einstein's relativity accessible. Coupled with the excellent support from teaching assistants, I have greatly benefited from every class. I am truly grateful to the school and instructors for this enriching experience."

Z. Chen '25

"Firstly, I would like to thank all the teachers for the well-prepared class content and the Q&A and help they gave us after the class. Academic advisor gave us effective advice and provided timely help. Secondly, the classroom content is very fulfilling and the programme format is rich and diversified. The curriculum is more selective and flexible. Finally, the year at CUHK was a good experience, with a beautiful campus environment and a wide range of after-school activities."

W. Q. Li '25

"The teachers always manage to impart knowledge to us in a humorous and engaging way, making the class both fulfilling and interesting."

J. C. Chen '25

"I learned a lot from the physics faculty and teachers this year. The teachers here are all very friendly, and patient. In terms of curriculum design, this program includes both basic courses in physics and deeper courses, which can be chosen according to our level. And this program does not have mandatory courses, we can choose any course that interests us, and the autonomy is very high, which can meet our various needs."

Y. S. Zhang '25

What Our Graduates Say (*cont'd*)

"Over the year I spent there in Hong Kong as a Physics MSc student, every staff member and every professor I interacted with was amazing..., every professor was willing to work with me where I was, showing patience and dedication to their students.

At CUHK I chose to take many classes that were geared around applying physics to other fields because I figured many students will want to know all the different places they can apply the material they learn. I also took some guided studies in subjects that greatly interested me, and are of great interest in the world today. I can definitely say that the CUHK MSc in Physics prepared me well to be a teacher."

K. S. Maxwell '17
High school math teacher, USA

"When I was graduated from CUHK in 2014, I did not have the answers for two questions: 1. Should I keep studying physics and related subjects in the future? 2. Which university/company would be the most suitable for me? To find the answers, I decided to join the MSc program provided by our department, as the environment is familiar to me and the teaching quality is at the top level in China.

Later, I found the requirement of MSc program was very flexible. One could focus on theoretical or experimental physics according to his own will. Also, great opportunities for approaching research life was provided. I had taken 8 courses, including 2 experimental courses, in one year. This experience had really changed my life. I found my aim, to become a qualified researcher in experimental physics."

Y. H. Lai '14
Senior Engineer at ASTRI

"The diverse MSc courses (physics and material sciences) are high demanding and useful, the teachers are well prepared and rigorous on teaching. In addition, my English proficiency as well as research capability are improved. Because of the courses and project experience, I was luckily to be enrolled as an MPhil student in Professor J. F. Wang's group. The MSc courses have lasting effects in my MPhil period, even in my Ph.D. research in Sweden. I sincerely appreciated the chance of MSc program in CUHK, the cozy environment in the department, the friends I made in Hong Kong and the beautiful campus leaved a wonderful memory to me."

J. X. Wang '11
Postdoc researcher at University of Cambridge, UK

"To sum up, all courses were not only matched my interest but also useful for my future career in physics. They provided standard-graduate level physics knowledge and training…

I realized what physics really was after the program. I learned the knowledge, skills and the way of thinking for solving physics problems. Although there were difficulties during the time, it was a valuable experience for me and for my future career."

T. W. Choi '18
PhD student at Uppsala University, Sweden

Campus Facilities and Services

- ★ **Academic Advisory System** ★ assigns every student an academic advisor, who provides guidance on course selection, career planning and further studies.
- ★ **University Library** ★ has a significant bilingual collection of resources and award-winning study spaces, striving to provide the best support to students.
- ★ **Healthcare Facilities** ★ provide primary medical care to full-time students.
- ★ **Sports Facilities** ★ include sports fields for track and field, gymnasia, an Olympic-sized swimming pool, tennis and squash courts, weight training rooms and a water sports centre.
- ★ **Independent Learning Centre** ★ provides students with an immersive language environment to improve their Chinese and English proficiency.
- ★ **Postgraduate Society** ★ organizes and promotes academic and recreational activities (such as student conferences, movie nights, hiking trips, etc.).

University Library

Sports Field

CUHK Physics Student Conference is co-organized by the Postgraduate Society and Physics Society

Why Hong Kong

The universities adopt international standards in curriculum design and quality assurance – the qualifications awarded are internationally recognised

A high efficiency, modern and vibrant metropolis – offering global, regional and local connectivity

Enrich your study life in Hong Kong, a place full of opportunities. This will be an unforgettable experience!

A melting pot of Eastern and Western cultures – Chinese and international cuisine, brands and integrated entertainment.

World-class conditions in finance, trade, innovation and transportation – serving as a pilot city in the Guangdong - Hong Kong - Macao Greater Bay Area.