

# Taught Postgraduate Programmes



**The College of Science and our four academic departments strive to offer quality programmes in Biostatistics, Chemistry, Mathematics and Physics.**

Drawing upon the diverse expertise of the internationally recognized faculties and the state-of-the-art research facilities, the College offers focused curriculum with a vision to generate regional and global impact in theoretical and applied sciences, equipping students with transferrable skills and attributes necessary for a career in academia and beyond.



Department of Biostatistics

香港城市大學  
City University of Hong Kong

# Master of Science in Biostatistics

## 理學碩士 (生物統計學)

1 - Year Full-time | 2 - Year Part-time

2024 Intake

Programme Code: P97

*Advancing your career  
in the data-intense era  
through Biostatistics!*

- Third intake in 2024
- Emphasizes on **One Health** approach training
- Comprehensive training in the principles and applications of statistics in **biological science** and **public health**
- Covers areas in **probability and statistical theory with a research focus**
- UGC Fellowship opportunities for local students up to HK\$120,000 each



**Enquiry**

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<https://www.cityu.edu.hk/bios/pg/mscbios.htm>



# About the Programme

The **Department of Biostatistics** was established on 1 July 2021. As the first of its kind in Hong Kong, it is uniquely positioned under the College of Science, City University of Hong Kong to achieve a vision of advancing health data science, enhancing collaborations with existing experts in data science, public health and veterinary epidemiology, as well as synergising interdisciplinary education and research across the University.

The **Master of Science in Biostatistics**, in its third year of offering, aims to train the next generation of biostatisticians through an innovative curriculum and equip them with the necessary analytical, leadership and communication skills to meet the challenges of a data-intense era. It will help foster the development of novel statistical theory and the application of state-of-the-art data analytical solutions for problems in public health, veterinary epidemiology and the biomedical sciences.

Comprehensive training in the principles and applications of statistics in biological science and public health will be provided. Students are trained in Biostatistics using One Health approach to enhance their knowledge, abilities and professional capabilities to solve the interdisciplinary health problems posed by emerging medical and public health issues.

Graduates of the programme, whom are envisaged to be in high demand following

the increasing global concerns over public health and the rapid expansion of the pharmaceutical industry in China, will be qualified to pursue careers involving biomedical and public health in government, biotech companies, and national / international research institutions. There is a severe shortage of trained biostatisticians in the market. And it is expected that there will be an increase in employment opportunities in public health for biostatisticians due to the COVID-19 pandemic.

# Programme Structure

Students are required to complete **30 credit** units for graduation

21

credit units

## Core Courses

- Introduction to Biostatistics in One Health
- Principles of Epidemiology and One Health
- Probability
- Statistical Computing
- Advanced Methods in Biostatistics
- Statistical Inference
- Communication and Project Study

9

credit units

## Elective Courses

- Time Series Analysis
- Spatial Data Analysis
- Statistical Methods for Categorical Data Analysis
- Introduction to Statistical Learning
- Infectious Disease Epidemiology
- Intermediate Level Statistics for One Health

The offering of elective courses is subject to change without prior notice

## Career Prospect

Graduates can pursue careers, for example, in biomedical and public health studies in government, biotechnology companies and national/international research institutions. The programme also provides the necessary academic preparation for those who wish to pursue PhD-level training in biostatistics at a later date.



# Fellowships Scheme

Fellowship awards are available for local students admitted to this programme under the Fellowships Scheme supported by the HKSAR Government. This programme in the priority area of “Research” is one of the targeted programmes listed under the Fellowships Scheme with 3 fellowship awards. Local students admitted to the programme in full-time, part-time or combined study mode may be invited to submit applications for the fellowships.

To be eligible for admission, applicants must possess a recognized undergraduate degree that includes courses in the mathematical or biomedical sciences. Applicants who might not have solid training in mathematics and statistics during their undergraduate studies would also be considered. Prior coursework in linear algebra, calculus and statistics is highly desirable.

Applicants satisfying the admission requirements who have relevant working experience will be considered favourably.

## Admission Requirements

Applicants whose entrance qualification is obtained from an institution where the medium of instruction is NOT English should also fulfill the following minimum English proficiency requirement:

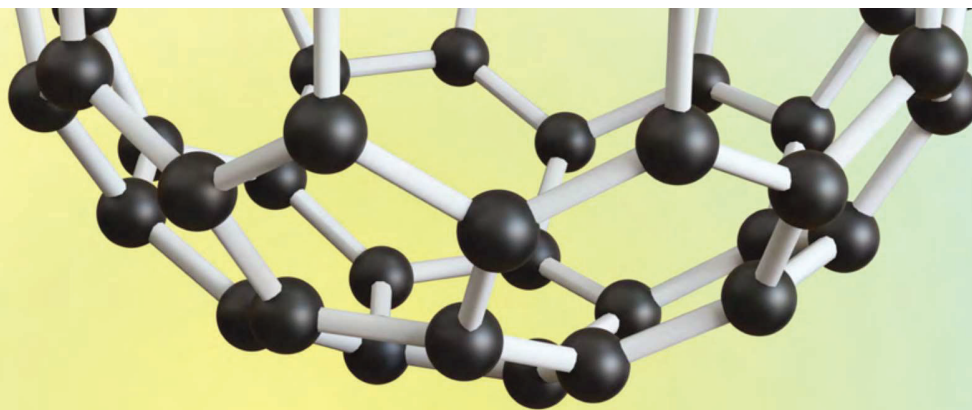
- a score of 79 (Internet-based test) in the Test of English as a Foreign Language (TOEFL); or
- an overall band score of 6.5 in International English Language Testing System (IELTS) ; or
- a score of 450 in the Chinese mainland’s College English Test (CET-6); or
- other equivalent qualifications.

For details of admission requirements, please visit <https://www.cityu.edu.hk/pg/programme/p97>

## Application

Please apply online via

<https://www.cityu.edu.hk/pg/taught-postgraduate-programmes/>



# Master of Science in CHEMISTRY

## Programme Aims

The Master of Science in Chemistry programme aims to train and produce graduates with highly marketable research skills and experiences in a wide variety of advanced chemistry disciplines to meet local, regional and global demands for R&D specialists in the industrial, commercial, and government sectors. Graduates are also eligible for pursuing higher research degrees in local and overseas universities and research institutes.

## Programme Features and Advantages

This programme consists of lectures, seminars and thesis research, with an emphasis on requiring students to conduct independent research, participate in scientific conferences/seminars and complete dissertations. The specialized courses cover a wide variety of advanced chemistry disciplines, including catalysis, synthetic chemistry, materials & biomaterials chemistry, analytical & bio-analytical science, computational chemistry, environmental chemistry and chemical biology.

## Programme Structure (subject to review)

Students are required to complete 30 credit units, including core courses (16 credit units) and MSc dissertation (14 credit units).

Course Title	Credit Units
Advanced Chemical Instrumentation	3
Frontiers in Chemical Biology	3
Selected Topics in Chemistry & Molecular Sciences	3
Academic and Industrial Research, Development and Innovation	3
Advanced Seminar Series	3
Postgraduate Symposium	1
Dissertation	14

## Admission Requirements

<https://www.cityu.edu.hk/pg/programme/p67>

## Application Procedures

For details, please visit:



## Duration of Programme

Full-time: 1 year;

Part-time / Combined mode: 2 years

## Language of Instruction

English

## Programme Fee

[https://www.cityu.edu.hk/sgs/tuitionfee/sf\\_p67.htm](https://www.cityu.edu.hk/sgs/tuitionfee/sf_p67.htm)

## Contact Us

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**City University of Hong Kong**



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Department of Chemistry

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City University of Hong Kong



Department of Mathematics

香港城市大學  
City University of Hong Kong

# Master of Science in Financial Mathematics and Statistics

## 理學碩士 (金融數學與統計)

1 Year Full-time / 2 Year Part-time  
2024 Intake

Programme Code: P68

## Introduction

The programme emphasizes the development of students' ability to evaluate and develop financial business and statistical models. It also provides students with the theoretical knowledge necessary for complex financial and insurance operations. Furthermore, the programme enhances their mathematical and computational skills in Financial Mathematics and Risk Management.

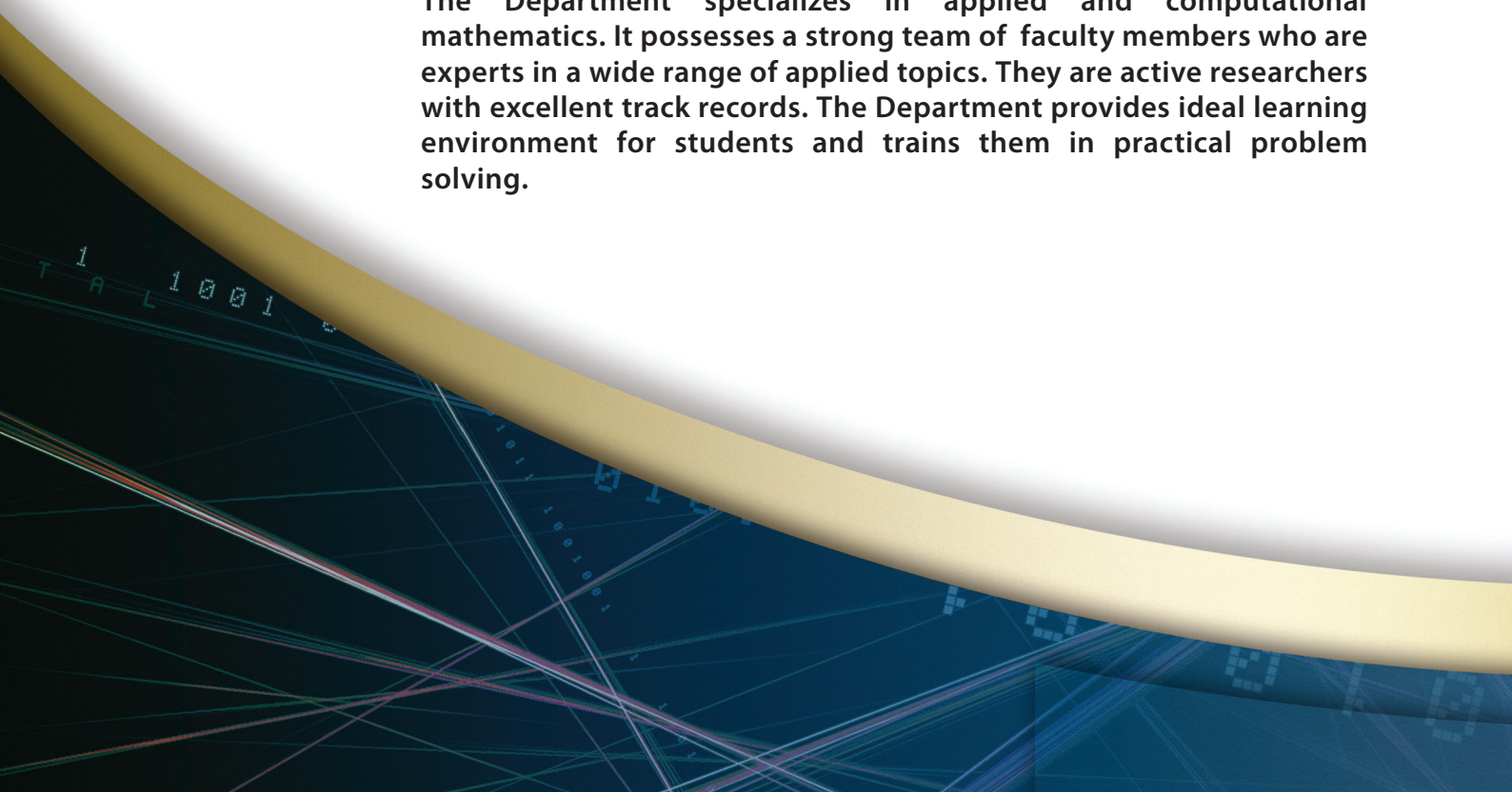
Graduates should be able to price various modern financial and insurance products and to assess and manage financial and insurance risks. The programme will significantly enhance the competitiveness of our graduates in the job market. It is expected that students majoring in areas like Financial Engineering, Actuarial Science, Mathematics, Statistics, Physics, Engineering, Computing and Information Technology, as well as professionals from both finance and insurance industries will benefit from this master degree programme.

## Unique Features

- The programme aims at producing analytical graduates with business awareness as well as solid background in financial engineering and risk management, and to equip students with relevant theoretical knowledge as well as statistical and computational skills in a global business context.
- Students will conduct research projects with faculty members. Through classroom learning and interaction with their supervisors, students will understand the new cutting-edge techniques and develop their interests in research. Such experience will serve as the foundation for students to pursue a PhD degree.
- Graduates will be equipped with mathematical skills, contemporary finance theory and information technology knowledge, and be ready for a professional career in finance/statistical industries.

## Department of Mathematics at City University of Hong Kong

The Department specializes in applied and computational mathematics. It possesses a strong team of faculty members who are experts in a wide range of applied topics. They are active researchers with excellent track records. The Department provides ideal learning environment for students and trains them in practical problem solving.





## Programme Structure

Students are required to complete a minimum of 30 credit units\*:

Course type	Credit Units
Cores	15
Electives	15 or 16
<b>Total</b>	<b>30 or 31</b>

\* Each course carries 3 credit units except MA6616 Project (1 credit unit) and MA6617 Dissertation (6 credit units).

Students are required to take the following core courses and select courses from a pool of elective courses listed below:

### **Cores:**

MA5616	Financial Mathematics in Derivative Markets
MA5617	Statistical Data Analysis
MA5618	Stochastic Analysis in Finance
MA6629	Advanced Stochastic Analysis in Finance
MA6633	Statistical Modelling for Data Mining

### **Electives:**

MA5601	Applied Partial Differential Equations
MA6612	Numerical Partial Differential Equations
MA6616	Project (1 credit unit)
MA6617	Dissertation (6 credit units)
MA6622	Statistical Methods and Calibration in Finance and Actuarial Science
MA6627	Stochastic Interest Rate Models
MA6628	Programming and Computing in Financial Engineering
MA6630	Introduction to Statistical Learning
MA6631	Special Topics
MA6632	Statistical Analysis of Financial Big Data
EF5042	Corporate Finance (Department of Economics and Finance)
EF5340	Credit Risk Management (Department of Economics and Finance)
BIOS6900	Time Series Analysis

\* All courses to be offered or not will be subject to host department's final decision and may vary from term to term

## Credit Transfer / Exemption

If applicants have completed equivalent courses at a university level, they may be eligible to apply for credit transfer (at a maximum of 9 credit units) or exemption from some programme requirements upon admission to the University. In such cases, the standard application fee will be charged in accordance with the University's policy.

## Mode of Study

Courses will be delivered on weekday evenings and Saturdays. Some courses may be taught in intensive mode by visiting experts (i.e. 39 hours to be taught in 7 weeks in Semester A/B or 5 weeks in Summer Term). Since full-time students may also take some courses along with part-time students, they may have to attend classes in the evenings and weekends.

## Normative Study Period

- 2-3 semesters (full-time)
- 4-5 semesters (part-time)

## Commencement

September 2024

## Entrance Requirements

To be eligible for admission, the applicants must hold a first degree or a postgraduate degree in science and engineering (Mathematics, Physics, Statistics, Computer Science, Engineering, etc.), or in a related discipline (Economics, Finance, and Actuarial Science), or equivalent.

## Online Application

<http://www.cityu.edu.hk/pg/taught-postgraduate-programmes/apply-now>

## Fees

Application fee: HK\$500

Tuition fee: HK\$7,400 per credit unit (subject to yearly review)

Graduation fee: HK\$400

Successful applicants will be required to pay a deposit equivalent to 5 credit units.

## Application Deadline (tentative)

31 January 2024

## Education Loan

Successful applicants may apply for the Government's Non-means-tested Loan Scheme. Application forms are obtainable from each District Office and the Student Financial Assistance Agency.

Enquiries: +852 2150-6222

Website: <http://www.wfsfaa.gov.hk/sfo/en/index.htm>

## Enquiries

Department of Mathematics

Tel: +852 3442 8441

Fax: +852 3442 0250

Email: [mscfms@cityu.edu.hk](mailto:mscfms@cityu.edu.hk)

Website: <http://www.cityu.edu.hk/ma/programmes/postgraduate/msc-financial-mathematics-and-statistics-msfms>

# City University of Hong Kong Master of Science in Applied Physics



## Introduction

This programme provides post-graduate level training in applied physics with highly marketable professional skills in the sub-fields of **Bio-medical Physics**, **Energy Materials Physics** and **General Advanced Physics**. In addition to an advanced physics education, graduates will have solid trainings on applying physical principles to practical problems in specific related professions.

The training and knowledge provided are suitable for employment as medical technical specialists as well as engineers/researchers in electronic and renewable energy industries in Hong Kong, China and other Asian countries. Graduates of this programme will have the flexibility to seek employment in the industry as well as pursuing PhD studies in a broad range of related fields (e.g. Physics, Materials Science, Electrical Engineering, and Mechanical Engineering).



## Aims

The programme aims to enable students to:

- Acquire an extensive and in-depth physical knowledge of and analytical skills in the various applied physics and engineering fields.
- Develop the ability to apply the knowledge of applied and engineering physics to generate creative and ethical solutions in the working environment.
- Communicate effectively with applied and engineering physics related professionals.
- Apply textbook theories to applied and engineering physics problems.
- Design and conduct experiments, as well as to critically analyze and interpret data.
- Identify, formulate, solve engineering or scientific problems and generate new ideas in the relevant subfields of applied and engineering physics.
- Develop necessary skills to present research findings in a logical manner to the scientific community.
- Recognize the need for, and an ability to engage in life-long learning.

## Programme Requirement

Core Courses (18 credit units) + Elective Courses (12 credit units)

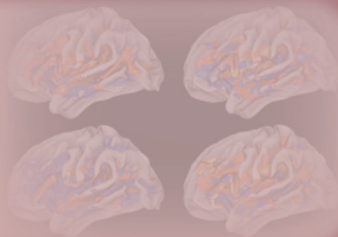
## Programme Structure

### Core Courses (18 credit units)

- Graduate Level Applied Physics

### Elective Courses (12 credit units)

- General Advanced Physics
- Energy Materials Physics
- Biomedical Physics



## Programme Duration

	Full-time mode	Part-time / Combined mode
Normal study period	1 year	2 years
Maximum study period	2.5 years	5 years



## Research Opportunity



Highly motivated students may be eligible to enroll in a 9 credit course "**Advanced Research in Applied Physics**" to acquire necessary skills for carrying out independent research in applied physics. Students will have the valuable opportunity to work with faculties on cutting edge research in condensed matters, quantum information, energy materials and biomedical physics.

## Further Details of Programme and Application Procedures

Enquiry:  
General Office, Department of Physics, CityU  
Tel: (852)3442-7831  
Fax: (852)3442-0538  
Email: [phy.go@cityu.edu.hk](mailto:phy.go@cityu.edu.hk)

Website:  
<https://www.cityu.edu.hk/phy/taught-postgraduate/msc-applied-physics>



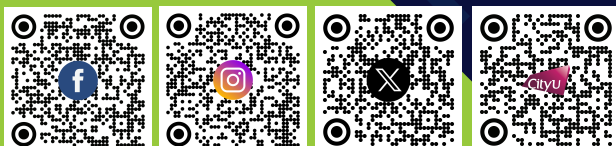
## Professional Career Prospects

- Medical Technical Specialists
- Renewable Energy Engineers
- Mechanical and Electronic Engineers
- Process and Project Engineers in the Semiconductor Industry
- Researchers in Materials Research Institutions
- Further Studies



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