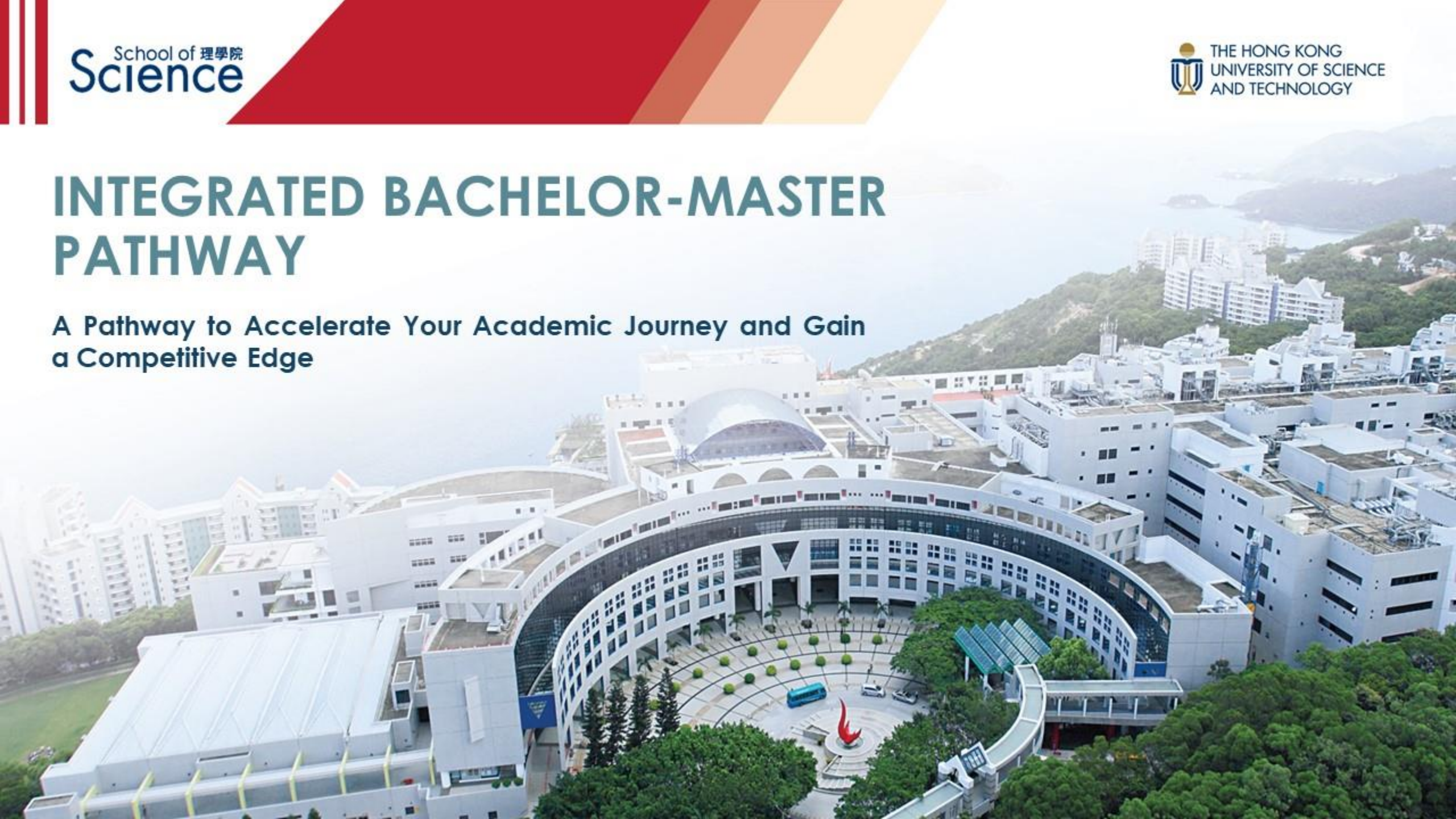


# INTEGRATED BACHELOR-MASTER PATHWAY

A Pathway to Accelerate Your Academic Journey and Gain  
a Competitive Edge





# INTEGRATED BACHELOR-MASTER PATHWAY

An accelerated pathway to start TPg studies immediately upon graduation

Allow to take corresponding PG courses in final UG year and be admitted to TPg programs as full-time students

Credit transfer allowed for recognized PG credits, with remaining credits paid on a pro-rata basis

Max. credit transfer limit: 9 credits for programs requiring  $\geq 30$  credits, 6 credits for programs requiring  $< 30$  credits

Admission scholarship available up to HK\$120,000 on competitive merit basis



# PROGRAMS AVAILABLE FOR YOUR CHOICE

## MSc in Analytical Chemistry

The program aims to prepare BSc graduates for careers in analytical laboratories, including materials and forensic testing, environmental sampling, and food quality control.

Minimum Credit Requirement: **30**

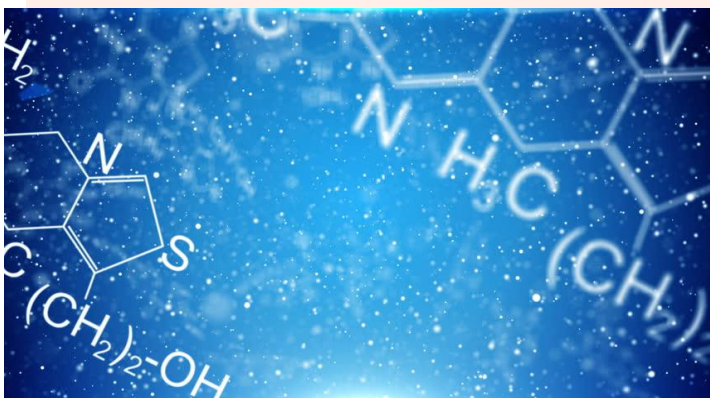
Max no. of credit allowed for transfer: **9**

### Course list of the program:

- ❖ Chemical Data Analysis
- ❖ Elemental Analysis
- ❖ Molecular Analysis
- ❖ Separation Methods
- ❖ Optical and Electrical Methods \*
- ❖ Environmental Analysis
- ❖ Food and Drug Analysis
- ❖ Macromolecular Analysis
- ❖ Materials Analysis
- ❖ Laboratory Management
- ❖ Analytical Instrumentation Laboratory
- ❖ Analytical Research Project

**Target group of students:**  
BSc Chemistry

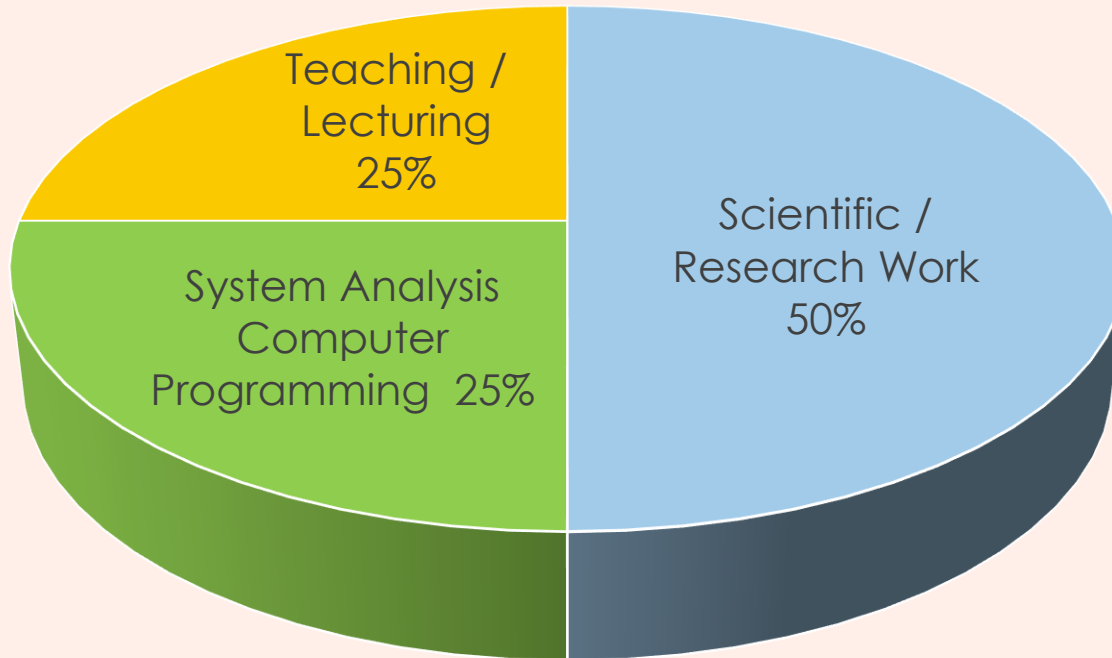
\* MSc course students allowed to take in final UG year, subject to the MSc Program Director's approval. Other available courses to be decided by the MSc program office.



# CAREER OF THE PROGRAM

**MSc in Analytical  
Chemistry**

**Distribution of graduates by job nature:**



## Major Employer list:

- ❖ ARCH Education
- ❖ Bureau Veritas Certification Hong Kong
- ❖ AkzoNobel
- ❖ Technischer Überwachungsverein
- ❖ Bothsincere International Holding Limited
- ❖ Castco Testing Centre Limited
- ❖ ALS Technichem (HK) Pty Limited
- ❖ Bright Future Pharmaceutical Laboratories Limited
- ❖ Eflex Per Limited
- ❖ Horizonbiochip
- ❖ Nanyang Brothers Tobacco Co., Ltd.
- ❖ Reflex AV Limited
- ❖ Sylvan Learning, Inc.



# PROGRAMS AVAILABLE FOR YOUR CHOICE

## MSc in Biotechnology

The program provides rigorous training for students pursuing professional careers in biotechnology and pharmaceutical industries. It has been widely recognized by professionals in these fields as a top academic program since it began.

Minimum Credit Requirement: **26**

Max no. of credit allowed for transfer: **6**

### Course list of the program:

- ❖ Principles and Application in Biotechnology
- ❖ Business Operations of Biotechnology
- ❖ Bioanalytical Technology \*
- ❖ Concepts in Bioprocessing \*
- ❖ Biomarkers and Medical Devices \*
- ❖ Biopharmaceutical Workshop
- ❖ Drug Discovery and Development \*
- ❖ Nutraceuticals and Transgenic Products
- ❖ Recombinant DNA Technology and Bioproducts \*
- ❖ Immuno Biotechnology \*
- ❖ Global Pharmaceutical Policy: Rationales and Stakeholders
- ❖ Biopharmaceuticals: Quality Development and Documentation
- ❖ Big Data, Artificial Intelligence and Machine Learning in Drug Safety
- ❖ Principles and Techniques for Technical Management
- ❖ Product Development Management
- ❖ Engineering Economics and Cost Management
- ❖ Pharmacology and Toxicology \*
- ❖ Biochemical and Molecular Basis of Diseases \*
- ❖ Cellular Regulation \*
- ❖ Case Investigation in Biotechnology
- ❖ Directed Biotechnological Research
- ❖ Advanced Biotechnological Research

### Target group of student:

BSc Biochemistry & Cell Biology  
BSc Biotechnology  
BSc Biological Science  
BSc Biotechnology & Business  
BSc Chemistry

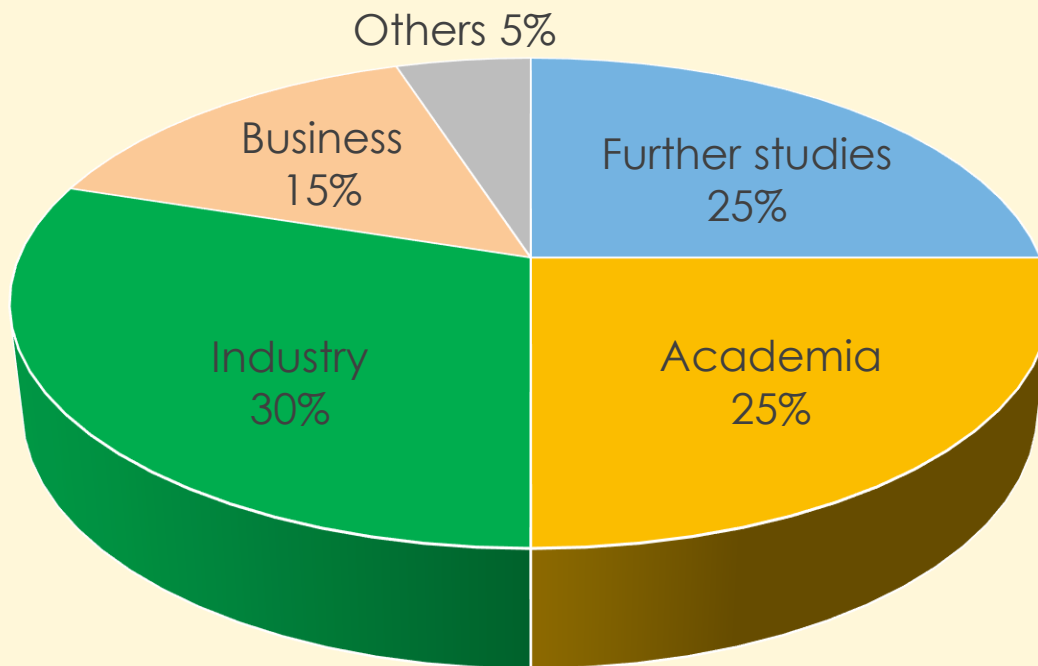
\* MSc courses that students are allowed to take in final UG year, subject to students' academic background and the MSc Program Director's approval.



# CAREER OF THE PROGRAM

**MSc in Biotechnology**

**Distribution of graduates by job nature or pursue further studies:**



**MSc BIOT graduates are employed in:**

❖ **Industry:**

Sino Biopharmaceutical Limited, SinoMab BioScience Limited, AstraZeneca, AUISET Biotechnology Company Limited, BGI, BioApex Scientific Company Limited, Bright Future Pharmaceutical Laboratories Limited, Decode Cure Limited, Govita Tech Ltd

❖ **Academia:**

HKUST, CUHK, HKU, Hong Kong Center for Neurodegenerative Diseases

❖ **Business:**

Morgan Stanley Asia Limited, J.P. Morgan, HSBC Global Banking and Markets, Bank of America Merrill Lynch, Credit Suisse (Hong Kong) Limited, Huatai Financial Holdings (Hong Kong) Limited, Hang Seng Insurance Co Ltd, Windrose Consulting Group (UK)

– **Pursue further studies:**

HKUST, CUHK, HKU, National University of Singapore

# PROGRAMS AVAILABLE FOR YOUR CHOICE

## MSc in Data-Driven Modeling

The program is a collaboration between the Departments of Physics and Mathematics. It is designed to train students with a science or engineering background to develop skills in modeling using data analysis, which can be applied in relevant careers.

Minimum Credit Requirement: **31**

Max no. of credit allowed for transfer: **9**

### Course list of the program:

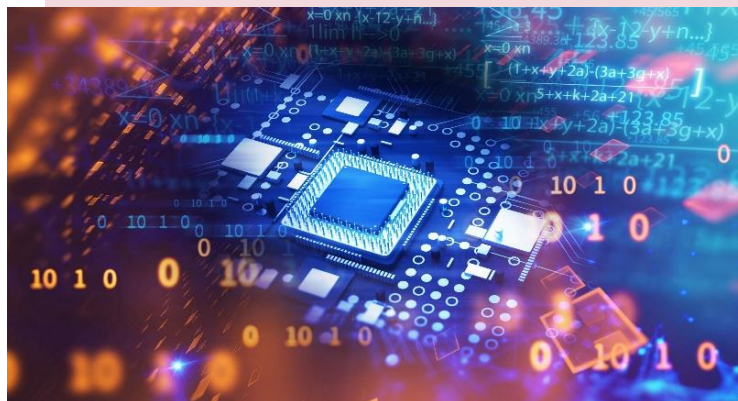
- ❖ Introduction to Computational and Modeling Tools\*
- ❖ Scientific Programming and Visualization\*
- ❖ Stochastic Processes and Applications\*
- ❖ Numerical Methods and Modeling in Science\*
- ❖ Data-Driven Modeling Seminars and Tutorials\*
- ❖ Algorithm and Object-Oriented Programming for Modeling\*
- ❖ Quantitative Analysis of Time Series\*
- ❖ Statistical Machine Learning\*
- ❖ Deep Learning for Modeling: Concepts, Tools, and Techniques\*
- ❖ Network Modeling\*
- ❖ Information Science\*
- ❖ Operations Research and Optimization\*
- ❖ Computational Energy Materials and Electronic Structure Simulations\*
- ❖ Innovation in Practice
- ❖ Computational Modeling and Simulation Project
- ❖ Business Literacy for Data Professionals

### Target group of student:

BSc students in Science or Engineering disciplines

### Note:

\*MSc courses that students are allowed to take in the final UG year, subject to the MSc Program Director's approval.



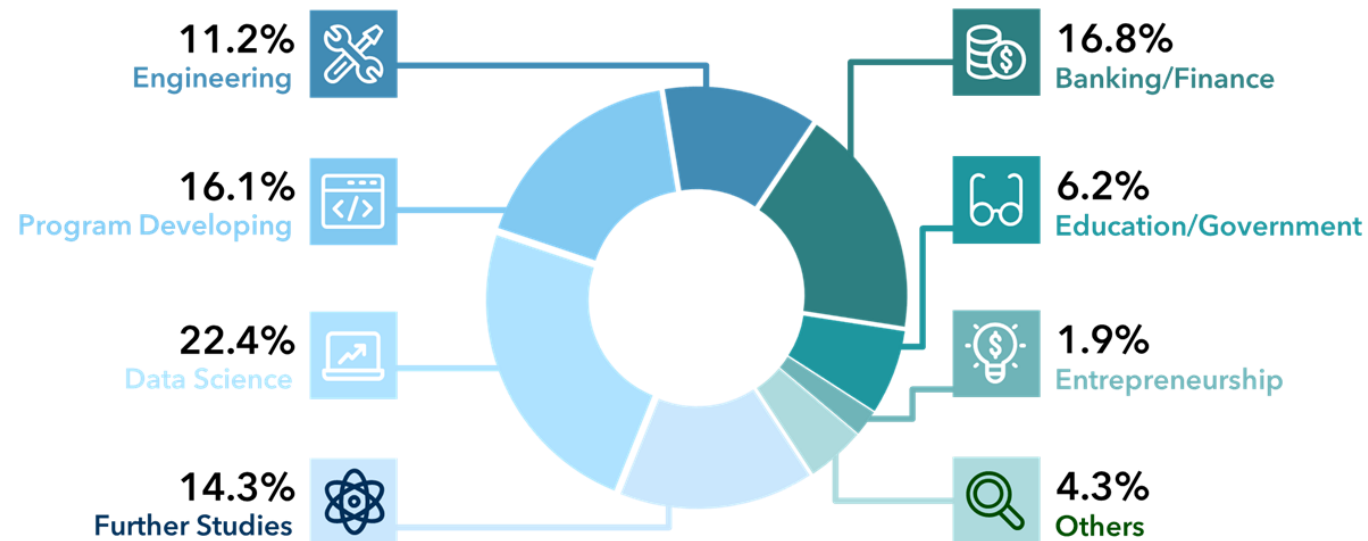


## MSc in Data-Driven Modeling

As of 31 March 2023,

- Near **79%** of graduates received job offers mainly in Beijing, Hong Kong, Shanghai and Shenzhen.
- Near **14.3%** of them pursuing further MPhil/PhD studies in Hong Kong, Mainland China, Singapore, USA.

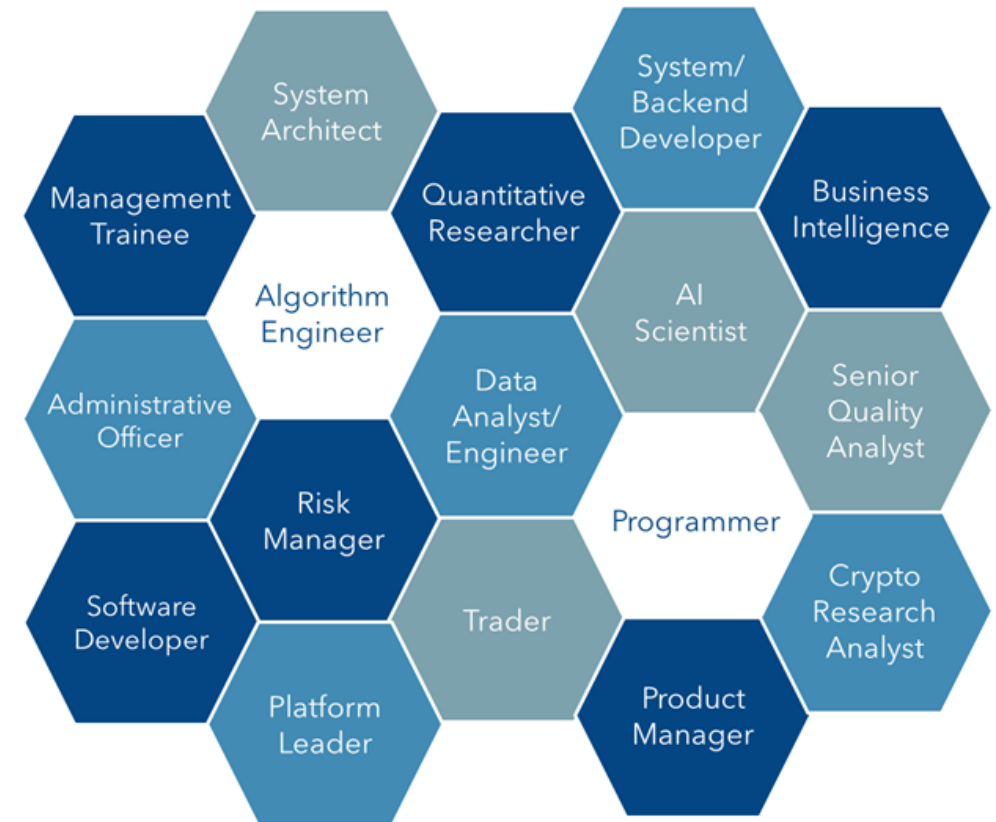
### Distribution of graduates by job nature:



## CAREER OF THE PROGRAM

Positions that the Graduates excel in...

### Our Graduates are Employed as...





# PROGRAMS AVAILABLE FOR YOUR CHOICE

## MSc in Environmental Health and Safety

The program provides multi-disciplinary training for current and aspiring environmental professionals. The curriculum covers environmental health practices, food safety, risk assessment, and occupational health and safety.

Minimum Credit Requirement: **30**

Max no. of credit allowed for transfer: **9**

### Course list of the program:

- ❖ Environmental Health
- ❖ Environmental Diseases and Microbiology
- ❖ Food Safety Control
- ❖ Public Health and Hygiene
- ❖ Environmental Hazards
- ❖ Marine Ecotoxicology
- ❖ Environmental Impact and Risk Assessment
- ❖ Conservation and Sustainable Development
- ❖ Pollution Monitoring and Control
- ❖ Occupational Health and Safety
- ❖ Environmental Health Research Project
- ❖ Advanced Environmental Chemistry
- ❖ Environmental Health and Management
- ❖ Water Quality and Assessment
- ❖ Biological Waste Treatment and Management
- ❖ Hazardous Waste Management
- ❖ Environmental Management and Regulatory Compliance

### Target group of student:

BSc students in Life Science, Chemistry, Environmental Science or a related area

### Note:

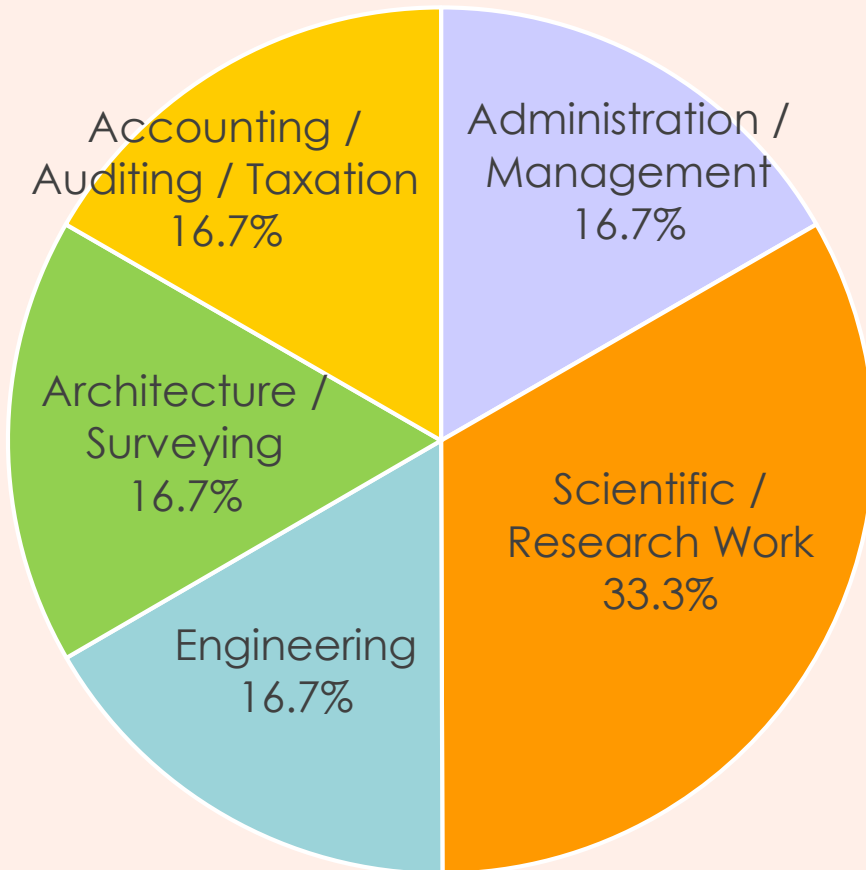
MSc course students allowed to take in final UG year depending on students' study plan and background knowledge, and subject to the MSc Program Director's approval.



# CAREER OF THE PROGRAM

**MSc in Environmental  
Health and Safety**

## Distribution of graduates by job nature:



## Career Prospects

- ❖ Work in industries like energy, healthcare, technology, government agencies, NGOs
- ❖ Job growth expected due to demand for EHS expertise and emerging issues like climate change

## Positions that the Graduates excel in...

- ❖ Project Manager, Hong Kong Waste Association
- ❖ Environmental Supervisor, Tung Lee Engineering Company
- ❖ Sustainability analyst, Tetra Pak
- ❖ ESG Specialist, InnoBlock Technology
- ❖ Engineering Consultant, Guangdong Guangzi International Engineering Investment Consultants Co., Ltd.
- ❖ Bioinformatics engineer, BGI
- ❖ Quality Engineer, SwaySure
- ❖ Environmental Health and Safety Officer, China Resources Land Limited

## MSc in Financial Mathematics

The program helps undergraduate students from quantitative disciplines, including mathematics, statistics and computing, to be professionals in contemporary finance and wealth management.

Minimum Credit Requirement: **36**

Max no. of credit allowed for transfer: **9**



## PROGRAMS AVAILABLE FOR YOUR CHOICE

### Course list of the program:

- ❖ Stochastic Calculus \*
- ❖ Advanced Probability and Statistics \*
- ❖ Quantitative Modeling of Derivatives Securities
- ❖ Quantitative Methods for Fixed-Income Instruments
- ❖ Advanced Data Analysis with Statistical Programming
- ❖ Quantitative Analysis of Financial Time Series \*
- ❖ Statistical Methods in Quantitative Finance \*
- ❖ Mathematical Models of Investment
- ❖ Quantitative Risk Management
- ❖ Software Development with C++ for Quantitative Finance
- ❖ Mathematical Market Microstructure
- ❖ Financial Markets in Hong Kong and China
- ❖ Portfolio Optimization with R
- ❖ Structured Products: Analysis and Pricing
- ❖ Machine Learning and Its Applications
- ❖ Computing for Finance in Python
- ❖ Reinforcement Learning with Financial Applications

- ❖ Entrepreneurship in Fintech
- ❖ Artificial Intelligence in Fintech
- ❖ Capstone Project in Financial Mathematics
- ❖ Special Topics in Financial Mathematics
- ❖ Advanced Numerical Methods I
- ❖ Independent Project

### Target group of student:

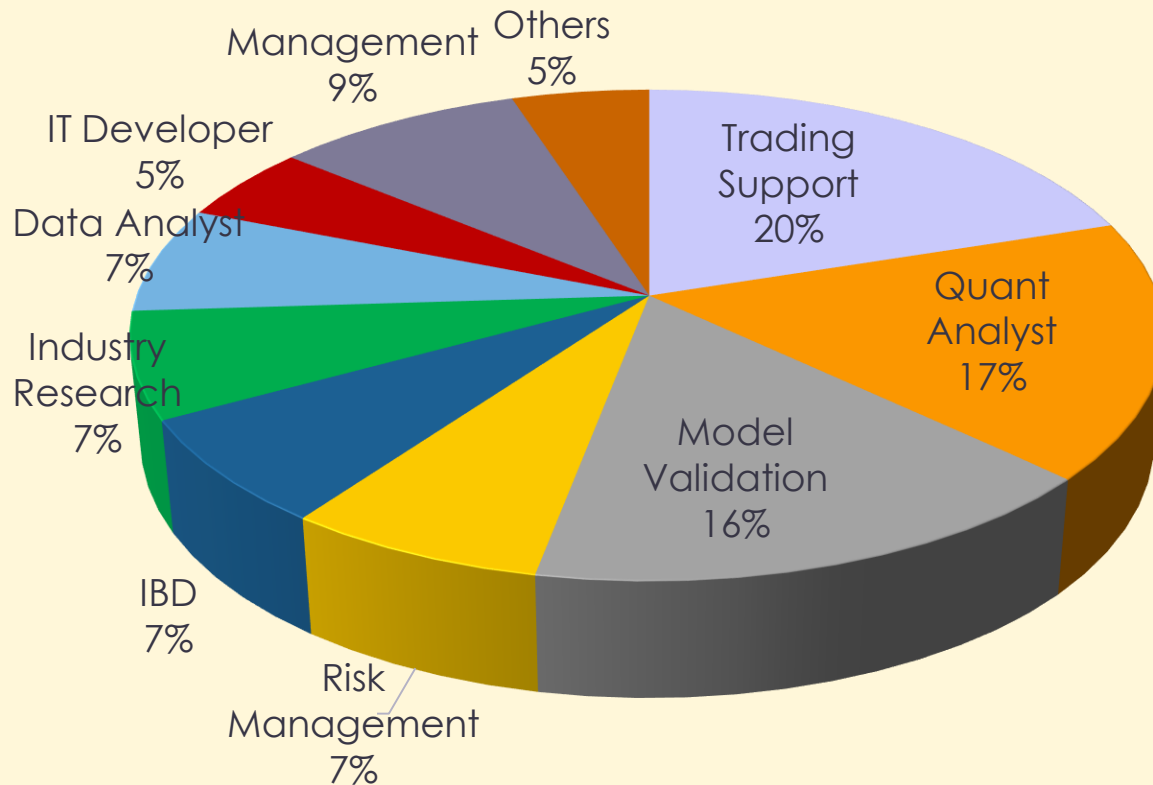
BSc (Financial and Actuarial Mathematics Track)  
BSc (Statistics Track)  
BSc (Applied Mathematics Track)  
BSc (Pure Mathematics (Advanced) Track)  
BSc (Pure Mathematics Track)  
BSc (Mathematics and Physics Track)  
BSc (Computer Science Track)  
BSc (General Mathematics Track)

\* MSc courses students allowed to take in final UG year, subject to students' academic background and the MSc Program Director's approval.



## MSc in Financial Mathematics

### Distribution of graduates by job nature:



## CAREER OF THE PROGRAM

Students typically take up quant analyst, trading assistant and consultant roles in finance sector, with increasing numbers in Fintech and Data analytics.

MAFM graduates are employed in:

### ❖ Banks

Agricultural Bank of China, China Construction Bank, DBS, UBS, Citi group, HSBC, Hang Seng Bank, ICBC, Standard Chartered Bank, J.P. Morgan, Societe Generale

### ❖ Auditing Firms

Deloitte, Ernst & Young, KPMG, PricewaterhouseCoopers

### ❖ Key Financial Institutions

China Galaxy Securities, China Securities (International), CICC, Huatai Financial Holding, HKEX, Magnum Research Limited, Manulife, Sinolink Securities

### ❖ FinTech Companies

ASTRI, Numerix

# PROGRAMS AVAILABLE FOR YOUR CHOICE

## MSc in Mathematics for Educators

The program is designed to enhance the mathematical knowledge of mathematics educators, especially those teaching in secondary schools and tutorial institutions. The goal is to improve the teacher's mathematical knowledge and teaching skills, leading to career advancement opportunities for individuals and better teachers for society.

Minimum Credit Requirement: **27**

Max no. of credit allowed for transfer: **6**

### Course list of the program:

- ❖ Mathematical Analysis and Its Applications I
- ❖ Algebra and Its Applications I
- ❖ Classical and Modern Geometry
- ❖ Probability and Statistics
- ❖ Problem Solving Strategies
- ❖ Applications of Geometry and Analysis
- ❖ Classical and Abstract Algebra
- ❖ Combinatorics
- ❖ Methodology of Mathematics
- ❖ Teaching Mathematics in the Digital Age
- ❖ Pedagogy in Mathematics Teaching
- ❖ Topics in Mathematics
- ❖ Topics in Applied Mathematics for Mathematics Educators
- ❖ Scientific Computation
- ❖ MSc Project
- ❖ Independent Study

### Target group of student:

BSc students in Mathematics or a related Science or Engineering area

### Note:

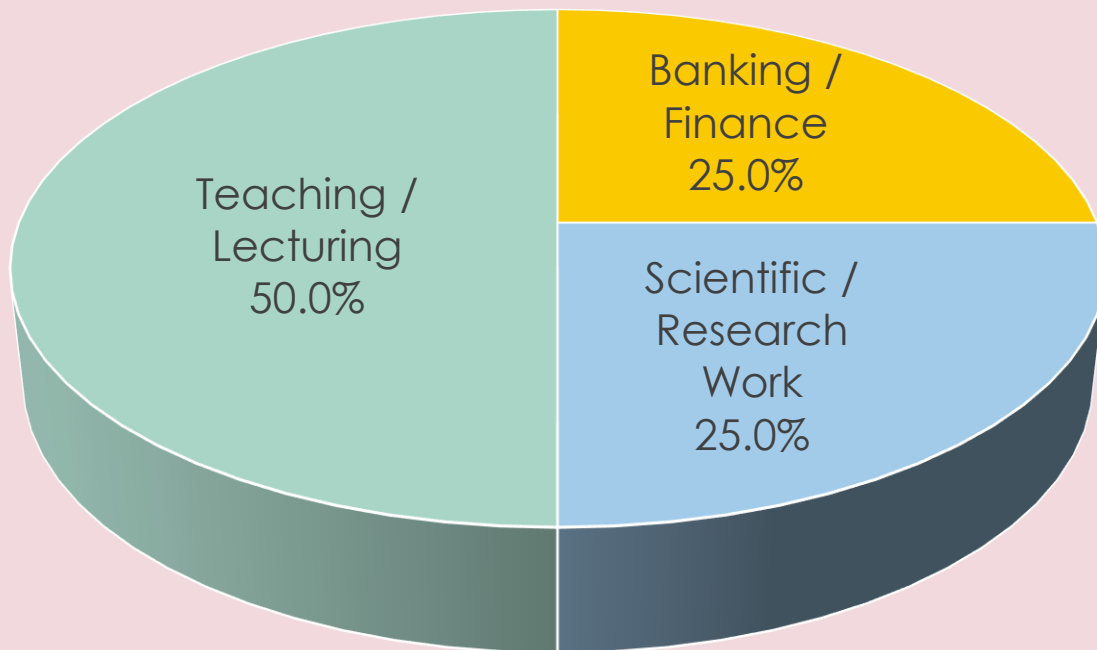
MSc courses students allowed to take in final UG year depending on students' study plan and background knowledge, and subject to the MSc Program Director's approval.



# CAREER OF THE PROGRAM

**MSc in Mathematics  
for Educators**

## Distribution of graduates by job nature:



## Major Employer list:

- ❖ HKSAR Government - Education Bureau
- ❖ The Laboratory for AI-Powered Financial Technologies Limited
- ❖ SinoPac Securities (Asia) Limited
- ❖ T.W.G.Hs Li Ka Shing College
- ❖ AIA
- ❖ International Mathematical Modelling Contest Committee (Zhonghua) Ltd
- ❖ NTK
- ❖ Zung Fu Company Limited
- ❖ ECF Saint Too Canaan College
- ❖ Good Hope School
- ❖ SKH Holy Carpenter Secondary School



# INTEGRATED BACHELOR-MASTER PATHWAY

## For Application:

**From June to August**, get in touch with the TPg program office and submit an intention form.

**By late August**: The TPg program office will confirm the application result.

**In September or October**: Successful applicants are required to submit an official online TPg admission application. (Note: Some TPg program offices may have different admission schedules, please consult the program offices for details)





# FREQUENTLY ASKED QUESTIONS

## **Are there any CGA requirements for joining the integrated pathway?**

Admissions for this pathway are selective and based on students' academic excellence and interview performance. Each TPg program has its own selection criteria. In general, students are expected to have a strong academic record to be considered for admission.

## **Is there a limit to the number of courses I can take? Can I take more than 6 or 9 credits of TPg courses and transfer only some of them for credit?**

The TPg program office will contact successful applicants about their study plan and course selection. You are advised to consult your department and the TPg program office beforehand if you wish to take additional courses.



# FREQUENTLY ASKED QUESTIONS

**Can I withdraw from the integrated pathway if I find it unsuitable after starting or completing the TPg courses?**

Yes, you may withdraw from the integrated pathway. However, please note that the deposit you paid for the TPg admission is non-refundable and non-transferable.

**What are the selection criteria for the admission scholarship? When will I know if I am offered the scholarship?**

The Scholarship's selection criteria are based on factors such as academic performance, non-academic achievements, leadership potential, and community involvement. The Scholarship is awarded to students upon admission to the TPg program, and the selected students will be notified of the scholarship award in due course. The Scholarship will be awarded in the form of a tuition fee reduction for the TPg program.



# FREQUENTLY ASKED QUESTIONS

## When is the application deadline and where can I get more information?

The integrated pathway accepts applications from Year 3 undergraduate students between June and August each year. The application deadlines for each TPg program may differ, so you should contact the TPg program offices directly if you are interested in applying. If you have any further questions about the application process, admission requirements, quota, deposit, or tuition fee payment, please also contact the TPg program offices for advice.

TPg program	Enquiry email	Program website
MSc in Analytical Chemistry	chms@ust.hk	<a href="http://www.chem-msc.ust.hk/">http://www.chem-msc.ust.hk/</a>
MSc in Biotechnology	mscbtec@ust.hk	<a href="http://www.btec.ust.hk">http://www.btec.ust.hk</a>
MSc in Data-Driven Modeling	mscddm@ust.hk	<a href="https://msdm.hkust.edu.hk/">https://msdm.hkust.edu.hk/</a>
MSc in Environmental Health and Safety	ocesmsc@ust.hk	<a href="https://ehs.hkust.edu.hk/">https://ehs.hkust.edu.hk/</a>
MSc in Financial Mathematics	math.msc@ust.hk	<a href="https://mafm.ust.hk">https://mafm.ust.hk</a>
MSc in Mathematics for Educators	maed@ust.hk	<a href="http://www.math.ust.hk/maed/">http://www.math.ust.hk/maed/</a>