The Master of Science (MSc)
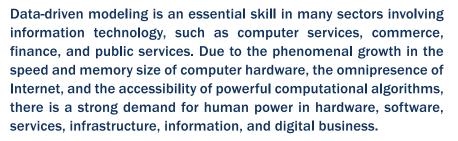
Program in **Data-Driven Modeling**

ABOUT
THE PROGRAM

The **Master of Science (MSc) Program in Data-Driven Modeling** is jointly offered by the Department of Physics and the Department of Mathematics. The program aims at training students with some science or engineering background who would like to prepare themselves for careers that require modeling skills based on information extracted from data.

Data-driven modeling is an essential skill in many sectors involving information technology, such as computer services, commerce, finance, and public services. Due to the phenomenal growth in the speed and memory size of computer hardware, the omnipresence of Internet, and the accessibility of powerful computational algorithms, there is a strong demand for human power in hardware, software, services, infrastructure, information, and digital business.

MSc (DDM) program aims at training graduates to have strong skills in problem solving and logical thinking. These skills are essential for them to become competent in the data science sector. They will be trained to have hands-on experience in analyzing large amount of data, extract significant features from them, and hence provide valuable insights to understand complex situations and facilitate smart decision making for businesses, industries and services.

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**QS World University Rankings
by Subject 2025**

Data Science and Artificial Intelligence
(No. 1 in Greater China, No. 3 in Asia)

Bridging theory,
practice and techniques

CURRICULUM

For successful completion of the program, each student is required to complete a minimum 31 credits. Students attending the program have to take 13 credits of core courses and 18 credits of elective courses. Full-time students are expected to complete the program in 1 year (two regular terms: Fall and Spring), and 2 years for part-time students. Please refer to the Program website for the latest information.

1. Core Courses

13 credits from the following list of courses:

Code	Course	Credits
MSDM 5001	Introduction to Computational and Modeling Tools	3 Credits
MSDM 5002	Scientific Programming and Visualization	3 Credits
MSDM 5003	Stochastic Processes and Applications	3 Credits
MSDM 5004	Numerical Methods and Modeling in Science	3 Credits
MSDM 6771	Data-Driven Modeling Seminars and Tutorials	1 Credit

2. Elective Courses

18 credits from the following list of courses:

Code	Course	Credits
MSDM 5005	Innovation in Practice	3 Credits
MSDM 5051	Algorithm and Object-Oriented Programming for Modeling	3 Credits
MSDM 5053	Quantitative Analysis of Time Series	3 Credits
MSDM 5054	Statistical Machine Learning	3 Credits
MSDM 5055	Deep Learning for Modeling: Concepts, tools, and techniques	3 Credits
MSDM 5056	Network Modeling	3 Credits
MSDM 5057	Business Literacy for Data Professionals	3 Credits
MSDM 5058	Information Science	3 Credits
MSDM 5059	Operations Research and Optimization	3 Credits
MSDM 6980	Computational Modeling and Simulation Project	3 Credits
PHYS 5120	Computational Energy Materials and Electronic Structure Simulations	3 Credits

Remarks:
1. Apart from the electives in the MSc(DDM) Program, students are allowed to take up to 3 credits of electives offered by the MSc Program in Financial Mathematics, subject to approval of the Program Director.
2. Part-time students may take a maximum of 9 credits in each term.

CAREER PROSPECT AND JOB OPPORTUNITIES

Our Program is dedicated to providing comprehensive support for students' professional development. We will organize a series of career-focused workshops and seminars specifically designed to empower students to enhance their career-related skills, ensuring they are well-prepared for success in their chosen fields. Our graduates pursued a wide range of career opportunities in various sectors, both locally and globally.

ADMISSION REQUIREMENT

To qualify for admission, applicants must meet all of the following requirements. Admission is selective and meeting these minimum requirements does not guarantee admission.

1 General Admission Requirements of the University

Applicants seeking admission to a master's degree program should have obtained a bachelor's degree from a recognized institution, or an approved equivalent qualification.

2 English Language Admission Requirements

Applicants have to fulfill English Language requirements with one of the following proficiency attainments:

TOEFL-iBT:	80
TOEFL-pBT:	550
TOEFL-Revised paper-delivered test:	60 (Total scores for Reading, Listening and Writing sections)
IELTS (Academic Module):	Overall score: 6.5 and All sub-score: 5.5

Applicants are not required to present TOEFL or IELTS score if:

- Their first language is English, or
- They obtained the bachelor's degree (or equivalent) from an institution where the medium of instruction was English.

3 Additional Information

A bachelor's degree in Science or Engineering disciplines, or

A bachelor's degree in other disciplines and:

- Have relevant working experience in computation-related fields, and
- Have working knowledge in at least one computer language, and basic training in calculus and linear algebra.

PROGRAM FEE

The program fee for 2026-27 intake is HK$ 260,000. The program fee covers tuition and course materials, is excluding books, computer equipment, software licensing, caution money, visa application, travelling and living expenses in Hong Kong, etc.

The program fee should be paid in the following instalments:

For Full-time Students

Upon confirmation of offer:	$ 90,000
By Fall term commencement date 2026-2027:	$ 40,000
By Spring term commencement date 2026-2027:	$ 130,000

For Part-time Students

Upon confirmation of offer:	$ 90,000
By Fall term commencement date 2026-2027:	$ 40,000
By Fall term commencement date 2027-2028:	$ 130,000

ENTRANCE SCHOLARSHIPS

All applicants will be considered for Admission Scholarships. No separate application is required. Selection is highly competitive and will be reviewed by the program administration.

WHEN AND HOW TO APPLY

Application Fee: HK$500

Application Deadlines for 2026/27 Fall Term Intake:

Study Mode	Non-local Applicants	Local Applicants
Full-time / Part-time	Round One: 15 Nov 2025 Round Two: 15 Feb 2026 Round Three: 15 Apr 2026	

HKUST's online application for 2026/27 Fall Term admissions:
http://fytgs.hkust.edu.hk/apply

APPLY HERE

CONNECT WITH US

Have a question or want to know more?
We'd love to hear from you!