



DEPARTMENT OF APPLIED MATHEMATICS
應用數學系



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

DEPARTMENT OF APPLIED MATHEMATICS
應用數學系

Minor in Applied Mathematics 副修應用數學 (Programme code: 63421)

Empower You to Excel in Major Study

ENROLL NOW!



SIMULATION

COMPUTATIONAL METHODS

DERIVATIVE PRICING

DECISION ANALYSIS

INTRODUCTION TO STATISTICS

STATISTICS FOR BUSINESS

MATHEMATICS FOR
SCIENTISTS AND ENGINEERS

ENQUIRY:

Email: ama.minor@polyu.edu.hk
Website : www.polyu.edu.hk/ama/study/ug/minor/

PROGRAMME LEADER

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DEPUTY PROGRAMME LEADER

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ASSISTANT PROGRAMME LEADER

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Ms Ida Man Tel: 2766 6948

DEPARTMENT OF APPLIED MATHEMATICS

Room TU732, 7/F, Core T, Yip Kit Chuen Building
The Hong Kong Polytechnic University
Hung Hom, Kowloon, Hong Kong



The Department of Applied Mathematics offers a Minor Programme in Applied Mathematics to Year 2 students of PolyU. Undergraduate students* from any UGC-funded full time degree programme are welcome to apply to this Minor Programme. Subject to approval, students may count up to 6 credits from their Major/ GUR towards this Minor.

PROGRAMME CHARACTERISTICS

The Minor in Applied Mathematics is designed to give students the opportunity to complement their degree with a quantitative / mathematical component. Having a background in mathematics helps demonstrate a student's ability to think critically, logically, and creatively. It also demonstrates the student's ability to find patterns, think abstractly, analyze and interpret data, solve problems, and make predictions in a variety of fields. This programme provides formal training in applied mathematics with applications to business, finance, management, social sciences, science and engineering.

OBJECTIVES

The specific aims of this programme are:

- (i) To broaden students' studies beyond their major discipline for a solid foundation in applied mathematical techniques for problem-solving.
- (ii) To provide students with solid training of applied mathematics, including operational research, risk analysis, statistics and financial computing with emphasis on real-world applications.

ELIGIBLE APPLICANTS

Year 2 students from any UGC-funded full time degree programme of PolyU with GPA of 2.5 or above

* Exclusion: students of the programmes below

- BSc(Hons) in Investment Science (63423/63423-SY)
- BSc(Hons) in Investment Science and Finance Analytics (63426/63426-SY/63428-IFA)
- BSc(Hons) in Data Science and Analytics (63425/63428/63428-SYD/63428-DSA)
- BSc(Hons) in Investment Science and Finance Analytics with a Secondary Major in AI & Data Analytics (63428-XAF)
- BSc(Hons) in Data Science and Analytics with a Secondary Major in Innovation and Entrepreneurship (63428-XID)

HOW TO APPLY

- In semester 1 of their 2nd year of study, students may submit applications to their Major Department for endorsement
- The endorsed application will be sent to AMA for final approval.

APPLICATION PERIOD

- 10-19 October 2023

CREDIT REQUIREMENT

(a) Core (compulsory) subjects	6 credits
(b) Electives	12 credits
Total credit required	18 credits

SUBJECT LIST *

(a) TWO core (compulsory) subjects

One Statistics course from below		
AMA1501	Introduction to Statistics for Business	Level 1
AMA1602	Introduction to Statistics	Level 1
AND One Calculus course from below ^		
AMA2111	Mathematics I	Level 2
AMA2131	Mathematics for Engineers	Level 2
AMA2380	Engineering Mathematics	Level 2
AMA2707	Intermediate Calculus and Linear Algebra	Level 2
AMA2882	Mathematics for Scientists and Engineers	Level 2

^ Students who have completed AMA2511, AMA2512 or AMA290 should not take AMA2111, AMA2131, AMA2308, AMA2380, AMA2707 or AMA2882. They are required to take ONE elective subject to replace AMA2111, AMA2131, AMA2308, AMA2380, AMA2707 and AMA2882 instead.

(b) Electives: Choose FOUR subjects from the following lists, THREE at level 3 or above

Applied Statistics		
AMA2104	Probability and Engineering Statistics	Level 2
AMA2691	Probability and Distributions	Level 2
AMA3602	Applied Linear Models	Level 3
AMA3640	Statistical Inference	Level 3
AMA3658	Stochastic Processes for Investment	Level 3
AMA4363*	Loss Models	Level 4
AMA4381	Econometrics	Level 4
AMA4602*	High Dimensional Data Analysis	Level 4
AMA4650	Forecasting and Applied Time Series Analysis	Level 4

Applied Mathematics		
AMA2112	Mathematics II	Level 2
AMA3201	Computational Methods	Level 3
AMA3231*	Numerical Methods and Computing	Level 3
AMA3707	Real Analysis	Level 3
AMA3708*	Differential Equations	Level 3

Financial Mathematics		
AMA3304	Theory of Interest and Portfolio Analysis	Level 3
AMA3724	Further Mathematical Methods	Level 3
AMA4325	Derivative Pricing	Level 4
AMA4380*	Algorithmic and High Frequency Trading	Level 4
AMA4390*	Quantitative Finance and Financial Technology	Level 4

Operational Research		
AMA3820	Operations Research Methods	Level 3
AMA4688	Simulation	Level 4
AMA4840	Decision Analysis	Level 4
AMA4850	Optimization Methods	Level 4

* All subjects carry 3 credits except for AMA2882 (4 credits).

* Subject to approval