



# Introduction to Major/Minor Programmes in Mathematics



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Department of Mathematics, The University of Hong Kong

# General Introduction



**DEPARTMENT OF MATHEMATICS**  
The University of Hong Kong



## HKU Students across faculties

Statistics



Risk  
Management

Quantitative  
Finance

Actuarial  
Science

Engineering

Business & Economics









# Why HKU Mathematics?

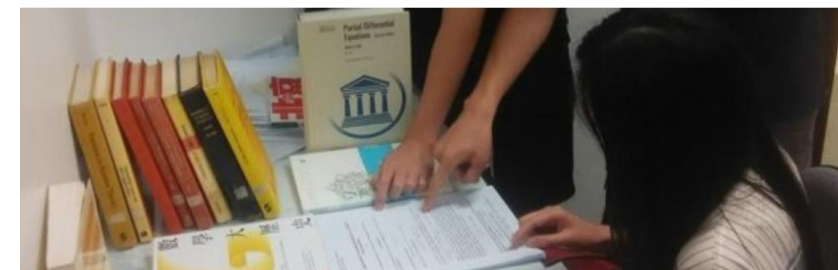
- ✓ The **longest** history in HK
- ✓ Good **solid** education in mathematics
- ✓ The **highest** standard of excellence in **research**
- ✓ Great **career** prospects
- ✓ **Internship**, Summer **research** and **Exchange** opportunities
- ✓ Bridge between **academics** and the **community**





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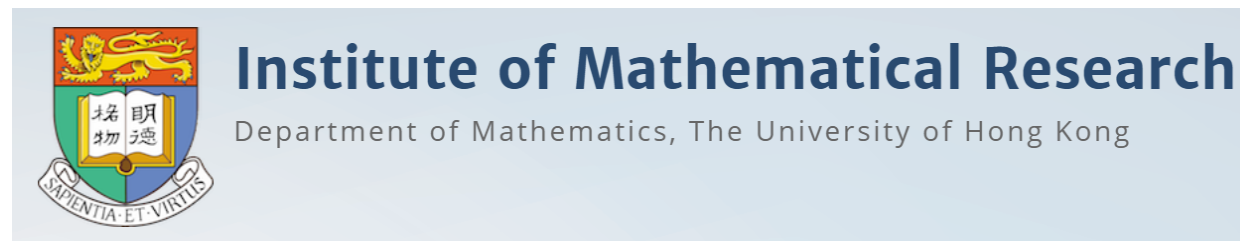
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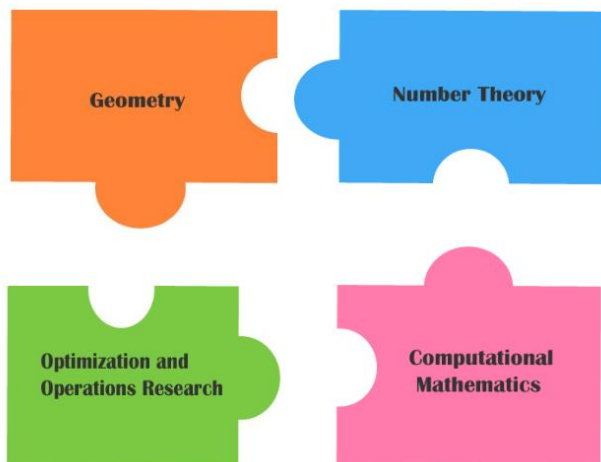


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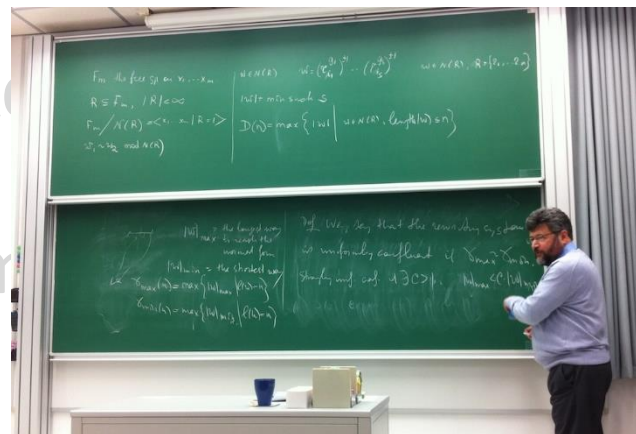
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## Research Groups



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Major in  
Mathematics

**Our Major  
& Minor  
Programmes**

Minor in  
Mathematics

Minor in  
Computational  
& Financial  
Mathematics

Major in  
Mathematics  
(Intensive)

Minor in  
Operations  
Research &  
Mathematical  
Programming



# Major in Mathematics

**MATH1013**  
University  
Mathematics II

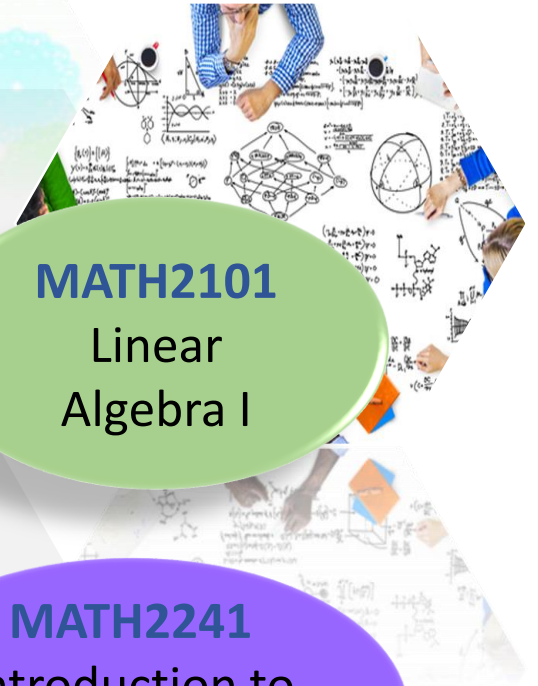
**MATH2102**  
Linear  
Algebra II

**MATH2012**  
Fundamental  
Concepts of  
Mathematics

**MATH2211**  
Multivariable  
Calculus

**MATH2101**  
Linear  
Algebra I

**MATH2241**  
Introduction to  
Mathematical  
Analysis





# Major in Mathematics

Throughout the curriculum there is also emphasis on experiential learning.

**MATH4911** Mathematics Capstone Project  
**MATH4999** Mathematics Project

**MATH3999**

Directed Studies  
in Mathematics

Projects

Guided  
studies

Seminars

Summer  
internships

**MATH4966**

Summer  
Internship

**MATH4910**

Senior Mathematics  
Seminar

# Major in Mathematics

With the diversity of courses offered in the major, students may choose to specialize in one of the following streams

**Pure Mathematics**

e.g.

**MATH3304** Number Theory  
**MATH4404** Functional Analysis  
**MATH4501** Geometry

e.g.

**MATH3906** Financial Calculus  
**MATH4907** Numerical Methods for Financial Calculus

**Mathematics, Economics and Finance**

**Computational Mathematics and**

**Operations Research**

e.g.

**MATH3901** Operations Research I  
**MATH3904** Introduction to Optimization  
**MATH4602** Scientific Computing

# Major in Mathematics

*Major in  
Mathematics*



**Minor in Economics/  
Finance/ Risk Management**

Master/PhD  
in  
Economics

Master/PhD  
in Finance

Master/PhD  
in Risk  
Management





Major in  
Mathematics

Major in  
Mathematics  
(Intensive)



# Major in Mathematics & Major in Mathematics (Intensive)

## Major in Mathematics

### Required courses (96 credits):

Introductory level courses (48 credits)

+

Advanced level courses (42 credits)

+

Capstone requirement (6 credits)

## Major in Mathematics (Intensive)

### Required courses (144 credits):

Introductory level courses (48 credits)

+

Advanced level courses (84 credits)

+

Capstone requirement (12 credits)

Students must have **level 2 or above** in HKDSE Extended **Module 1 or 2 of Mathematics or equivalent** to take these majors. Students who do not fulfill this requirement are advised to take **MATH1011 University Mathematics I**.



**Minor in  
Mathematics**

**Minor in  
Computational  
& Financial  
Mathematics**

**Minor in  
Operations  
Research &  
Mathematical  
Programming**





## Our Minor Programmes

### Minor in Mathematics

**Required courses  
(36 credits):**

Introductory level courses  
(18 credits)

+

Advanced level courses  
(18 credits)

### Minor in Computational & Financial Mathematics

**Required courses  
(42 credits):**

Introductory level courses  
(18 credits)

+

Advanced level courses  
(24 credits)

### Minor in Operations Research & Mathematical

**Required courses  
(42 credits):**

Introductory level courses  
(18 credits)

+

Advanced level courses  
(24 credits)



Minor in  
Mathematics

Minor in  
Computational  
& Financial  
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Minor in  
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# What can I do with a **major** in **Mathematics?**

Mathematics Major graduates find employment in **commerce** (banking and finance), **service industry** (insurance and the Government) and **education** (secondary schools and universities) sectors

Many of our graduates pursue their interests in other disciplines instead, where their mathematical training is a crucial advantage

## Career Prospects & Graduate Studies

**Teaching mathematics or mathematics-related subjects in schools**

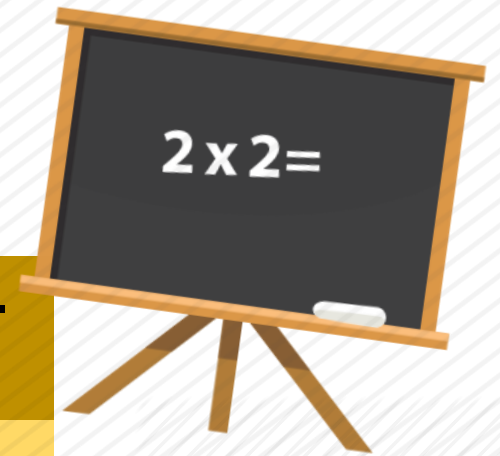
**Scientific researchers in tertiary-education institutions**

**Officers and curriculum developers**

**Publishing and textbook writing**

**Research and development for private companies**

**Job  
Opportunities**



## Career Prospects & Graduate Studies

HK  
Observatory

Logistics  
companies

Airport  
Authority  
Hong Kong

Banks (data  
mining)

AI  
Technology  
Center

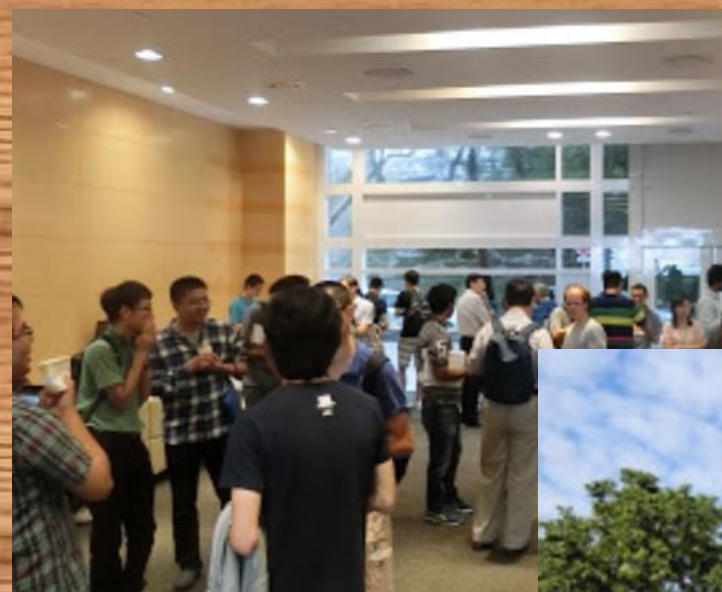
# Job Opportunities

Transportation  
consulting firms

Insurance  
companies

Software  
companies







Further  
Enquiries

## 4th floor of Run Run Shaw Building (邵逸夫樓)



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HKU.MATH

