

## **Master of Science (MSc) Program in Mathematics for Educators**

### **Program Director:**

Allen MOY, Chair Professor of Mathematics

Mathematics is an indispensable subject for quantitative understanding and logical thinking. It is employed as a formidable and powerful tool in science, engineering, and finance, and as such the learning and teaching of mathematics is of vital importance. The aim of the Master of Science (MSc) program in Mathematics for Educators is to enrich a mathematics educator's knowledge of mathematics. It will particularly benefit teachers in secondary schools and tutorial educational institutions. The degree is meant to allow these teachers to enhance their mathematical knowledge and teaching skills with the dual benefit of: (i) career advancement facilitation of the individual, and (ii) better teachers for the society.

### ***Program Learning Outcomes***

On successful completion of the program, graduates will be able to:

- Explain fundamental notions that underline the main areas of pure and applied mathematics and statistics;
- Explain the role of proof in pure mathematics;
- Explain to secondary school students the connection between the basic mathematics taught in secondary schools and more advanced mathematics;
- Use problem solving pedagogically as a way to increase student understanding and engagement in secondary schools; and
- Independently investigate additional areas of mathematics and its applications.

### ***Admission Requirements***

A bachelor's degree in Mathematics or a related Science or Engineering field. Students are generally expected to have knowledge in the subjects: (i) Multivariable Calculus, (ii) Linear Algebra, and (iii) Differential Equations.

### ***Program Duration***

The normal period for completing the program is one year in full-time mode and two years in part-time mode.

### ***Program Fee***

The program fee is HK\$84,000 for local students, and HK\$104,000 for non-local students.

### ***Curriculum***

Students must complete 26 credits comprising five core courses (15 credits), three elective courses (9 credits), and one project course (2 credits).

a) Core courses (15 credits)

MAED 5021	Mathematical Analysis and its Applications I
MAED 5111	Classical and Abstract Algebra
MAED 5121	Algebra and its Applications I
MAED 5211	Classical and Modern Geometry
MAED 5731	Problem Solving Strategies

b) Elective courses (9 credits)

MAED 5031	Mathematical Analysis and its Applications II
MAED 5131	Algebra and its Applications II
MAED 5321	Combinatorics
MAED 5421	Probability and Statistics
MAED 5821	Topics in Mathematics
MAED 5851	Scientific Computation

c) Project course (2 credits)

MAED 6980	MSc Project
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***Credit Transfer***

Credit transfer may be granted to students in recognition of equivalent courses successfully completed elsewhere. Subject to the approval of the Program Director and the University regulations, a maximum of 6 credits can be transferred to the program.

***Graduation Requirements***

Student must complete the program with a graduation grade average (GGA) of 2.850 or above as required of all postgraduate students at the University.