Faculty of Science

Division of Mathematics

The Mathematics Division is dedicated to develop research and services to the community. The postgraduate programme offers Ph.D., M.Phil. and M.Sc. degrees. Recently it has expanded rapidly in enrolment, curriculum and research areas. The development has been further strengthened by the establishment of The Institute of Mathematical Sciences. The graduates have distinguished themselves in research and professional positions locally and internationally.

MPhil-PhD in Mathematics — Code: MAT

Programme

MPhil Stream

Coursework : at least 15 units (5 courses)

Exemption may be granted by the Graduate Panel with the recommendation of the advisor.

Thesis Research : 6 units each term (Full-time)
3 units each term (Part-time)

Graduate Seminar : Minimum 6 units

In the final year, the student must submit a thesis to Division and pass an oral examination defending his/her thesis.

PhD Stream

Students are expected to pass the candidacy examinations within 12 months from first entry.

Coursework : at least 15 units (5 courses)

In the final year of study, the student must submit a thesis to Division and pass an oral examination defending his/her thesis.

Candidacy Examination

Each PhD student is expected to fulfill all of the following candidacy requirements by 24 months before advancement to PhD post-candidacy.

1. complete the course requirement as mentioned above;
2. pass at least two of the following written qualifying examinations in (i) Real Analysis, (ii) Complex Analysis, (iii) Abstract Algebra, (iv) Applied Mathematics. A PhD student should pass the 2 papers before the end of the first year of study;
3. submit a research proposal endorsed by the advisor, and pass an oral examination.

Please visit the Division's homepage for more information.

Fields of Specialization

Algebra: Commutative Algebra, Algebraic Geometry, Algebraic Number Theory, Classical Groups, Algebraic Manifolds, Moduli of Algebraic Manifolds and Hodge Theory.

Analysis: Convex Analysis and Nonsmooth Optimization, Fractals and Wavelets, Harmonic Analysis, Operator Algebra.

Applied Analysis: Applied Partial Differential Equations, Financial Engineering, Fluid Dynamics, Mathematical Physics, Mathematical Biology, Nonlinear Evolution Equations.

Computational Mathematics: Numerical Analysis, Equations and Linear Algebra, Image Processing, Optimization, Inverse Problems.

Geometric Analysis: Differential Geometry, Several Complex Variables, Nonlinear Analysis on Manifolds.

Pre-candidacy period

Thesis Research : 6 units each term (Full-time)
3 units each term (Part-time)

Graduate Seminar : Minimum 6 units

Post-candidacy period

Thesis Research : 12 units each term (Full-time)
6 units each term (Part-time)

Graduate Seminar : Minimum 6 units

Admission Requirements

Applicants must meet the general qualifications required for admission to the Graduate School[1]. In addition, applicants should have majored in Mathematics or related fields. Applicants may be required to attend an interview. Graduate Record Examination in Mathematics may also be required in some cases.

Additional Application Information

Admission Advisor : Prof. Conan N.C. LEUNG

Application Deadline : 28 February 2010

Contact Methods

Address : **Division of Mathematics**
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1. For the general qualifications required for admission to the Graduate School, please refer to pages 18-19.