

Catalog of Postgraduate Programs and Curricula

Curriculum for PhD(MATH) (For students admitted in 2010-11)

Program Requirements for Doctor of Philosophy (PhD) Program in Mathematics

Credits

1. To complete **36 credits** in Mathematics or related fields, of which at least 24 credits are mathematics courses at PG level.
2. Students with a first degree in an area other than mathematics may be required to take additional courses.
3. Subject to approval by the Department, students from other institutions with an MSc or MPhil degree may be granted credit transfer of up to 18 credits.
4. Students can choose to focus this research in one of the following areas:
 - (i) Pure Mathematics;
 - (ii) Applied Mathematics; and
 - (iii) Probability and Statistics.

Postgraduate Seminar

All full-time students are required to take and pass MATH 600 *Mathematics Seminar* in their first 4 semesters of study. Maximum number of credits to be earned from this course is 4.

Qualifying Examination

To pass a qualifying examination.

Research and PhD Thesis Examination

1. To conduct research and enroll in MATH 799 *Doctoral Thesis Research*; and
2. To defend the PhD thesis successfully.

Concentration

In addition to the existing program requirements, students who opt for the **Scientific Computation concentration** are required to:

- Complete MATH 6915 (1-credit), which cannot be counted toward the credit requirements;
- Complete one computation related course from the list below as a part of the 36 credits of required coursework:

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| MATH 5311 | <i>Advanced Numerical Methods I</i> |
| MATH 5312 | <i>Advanced Numerical Methods II</i> |
| MATH 5350 | <i>Computational Fluid Dynamics for Inviscid Flows</i> |

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| MATH | 5360 | <i>Weather, Climate and Pollution</i> |
| CHEM | 5210 | <i>Computational Chemistry</i> |
| PHYS | 5410 | <i>Numerical Modeling in Physics</i> |

- Conduct research in the area of scientific computation; and
- Give a one-hour seminar on the related research within their first four regular terms of study.