MATHEMATICS, PH.D.

Mathematics
Head: Shaun Lui
Grad Chair: Adam Clay
Campus Address/General Office: 420A Machray Hall
Telephone: 204-474-9693
Email Address: mathdept@umanitoba.ca
Website: umanitoba.ca/science/mathematics (https://umanitoba.ca/science/mathematics/)
Academic Staff: Please refer to the Mathematics website (https://umanitoba.ca/science/directory/mathematics/) for current staff listing.

Mathematics Program Information

The department offers programs leading to Master of Science and Doctor of Philosophy degrees.

Admission Information

Admission to the Faculty of Graduate Studies

Application and Admission Procedures are found in the Academic Guide (https://catalog.umanitoba.ca/graduate-studies/academic-guide/application-admission-registration-policies/).

Admission requirements for doctoral students are found in the Doctor of Philosophy General Regulations (https://catalog.umanitoba.ca/graduate-studies/academic-guide/doctor-philosophy-general-regulations/) section of the Guide.

Mathematics Ph.D. Admission Requirements

Students entering the Ph.D. program must have either an Honours degree or a M.Sc. degree in Mathematics.

Application Information

Students should complete and submit their online application with supporting documentation by the date indicated on the Mathematics Ph.D. program of study (https://umanitoba.ca/explore/programs-of-study/mathematics-phd/) page.

Degree Requirements

All course work must be approved by the advisor and the Associate Head (Graduate Studies). A student may take at most two 3 credit hour reading courses from any one instructor for credit in this degree program. Particular programs of study within mathematics may require courses outside the Department of Mathematics.

In addition to the course work, the student is required to take a candidacy examination, which will consist of two comprehensive exams from the following areas: Algebra, Analysis, Combinatorics, Differential Equations, Computational Mathematics, Topology, at least one of which must be Algebra or Analysis. The candidate's supervisor must approve the choice of subjects.

To proceed to a Ph.D. degree a student must have a grade of "A" on each of the three parts.

All Ph.D. students are required to serve as instructors in at least two one-semester undergraduate courses (two 3 credit hour courses or one 6 credit hour course) after passing all comprehensive examinations. The Department Head may require a student to complete additional training before any teaching duties are assigned to them.

Every Ph.D. student must make at least two presentations in a venue approved by the department; possible venues may include approved Department seminar series, external seminars, or conferences. Presentations given to fulfill course requirements, or other program requirements, are not eligible for this requirement.

Expected Time to Graduate: 4 years

Progression Chart

Course	Title	Hours
Year 1		
GRAD 7500	Academic Integrity Tutorial	0
GRAD 7300	Research Integrity Tutorial	0
Courses at the 7000 level or higher [1]		12
	Hours	**12**
Years 1-2		
GRAD 8010	Doctoral Candidacy Examination [2]	0
	Hours	**0**
Years 3-4		
GRAD 8000	Doctoral Thesis	0
	Hours	**0**
	Total Hours	**12**

1. All course work must be approved by the advisor and the Associate Head (Graduate Studies). A student may take at most two 3 credit hour reading courses from any one instructor for credit in this degree program.
2. Students in the Ph.D. program in Mathematics are normally expected to pass their candidacy examination within 13 months after their initial registration in the program.

Registration Information

Students should familiarize themselves with the Faculty of Graduate Studies 'GRAD' courses applicable to their program (https://catalog.umanitoba.ca/graduate-studies/registration-information/). If you have questions about which GRAD course(s) to register in, please consult your home department/unit.

All new and returning students are required to consult with a department advisor prior to registration.

Regulations

Students must meet the requirements as outlined in both Supplementary Regulation and BFAR documents as approved by Senate.

Supplementary Regulations

Individual units may require specific requirements above and beyond those of the Faculty of Graduate Studies, and students should consult unit supplementary regulations (https://umanitoba.ca/graduate-studies/supplementary-regulations/) for these specific regulations.

Bona Fide Academic Requirements (BFAR)

Bona Fide Academic Requirements (BFAR) (https://catalog.umanitoba.ca/graduate-studies/academic-guide/academic-performance-general/#BFAR) represent the core academic requirements

a graduate student must acquire in order to gain, and demonstrate acquisition of, essential knowledge and skills.

All students must successfully complete:

- GRAD 7300 prior to applying to any ethics boards which are appropriate to the student's research or within the student's first year, whichever comes first; and
- GRAD 7500 within the first term of registration;

unless these courses have been completed previously, as per Mandatory Academic Integrity Course (https://catalog.umanitoba.ca/graduate-studies/academic-guide/academic-performance-general/#GRAD7500) and Mandatory Research Integrity Online Course (https://catalog.umanitoba.ca/graduate-studies/academic-guide/academic-performance-general/#GRAD7300).

Students must also meet additional BFAR requirements (https://umanitoba.ca/graduate-studies/student-experience/core-academic-requirements/#additional-requirements-by-program) that may be specified for their program.

General Regulations

All students must:

- maintain a minimum degree grade point average of 3.0 with no grade below C+,
- meet the minimum and not exceed the maximum course requirements, and
- meet the minimum and not exceed the maximum time requirements (in terms of time in program and lapse or expiration of credit of courses).