

# CHEMISTRY, PH.D.

Chemistry

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**Academic Staff:** Please refer to Chemistry website (<https://umanitoba.ca/science/directory/chemistry/>) for Faculty information.

## Chemistry Program Information

A Master of Science or Doctor of Philosophy in the chemical sciences provides a gateway to an exciting, challenging and frequently high-paying career.

## 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.

### Chemistry Ph.D. Admission Requirements

Normally, only students holding thesis-based M.Sc. degrees will be admitted directly into the Ph.D. program. Other students will be admitted as M.Sc. candidates, with the option to transfer into the Ph.D. program after one year of satisfactory studies.

## Application Information

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

## Degree Requirements

For students entering the Ph.D. program directly from a B.Sc., a minimum of 15 credit hours of course work at the 7000 level, including CHEM 7900, are required.

For students entering the Ph.D. program with a recognized M.Sc. degree, students must complete CHEM 7900 if they have not already done so at an earlier stage, and an additional 6 credit hours of course work at the 7000 level.

Additional courses (undergraduate or graduate level) may be recommended by the advisory committee to make up for specific deficiencies in preparation of a specific student for a specific research topic. These courses will be designated as "O" on the PhD Program of Study Form. Fees will be assessed but they will not count towards the total degree credit hours.

Attendance at departmental seminars is mandatory throughout the graduate program, and will be enforced by the advisor.

**Colloquium:** A weekly colloquium is given by members of staff or external invited lecturers. All graduate students and fourth-year Honours students are expected to attend the colloquia.

**Expected Time to Graduate:** 4-5 years (from 4 year B.Sc.); 3 years (from M.Sc.).

## Progression Chart

Course	Title	Hours
<b>Year 1</b>		
GRAD 7300	Research Integrity Tutorial	0
GRAD 7500	Academic Integrity Tutorial	0
ACS Placement Test <sup>1</sup>		0
CHEM 7900	Seminar in Current Research Issues in Chemistry <sup>2</sup>	3
COURSE 7XXX	Two to four additional courses at the 7000 level <sup>3</sup>	6-12
GRAD 8000	Doctoral Thesis <sup>4</sup>	0
Department Seminars/Colloquia <sup>5</sup>		0
<b>Hours</b>		<b>9-15</b>
<b>Year 2</b>		
GRAD 8010	Doctoral Candidacy Examination <sup>6</sup>	0
Department Seminars/Colloquia <sup>5</sup>		0
<b>Hours</b>		<b>0</b>
<b>Year 3</b>		
Colloquium (departmental) seminar <sup>7</sup>		0
Department Seminars/Colloquia <sup>5</sup>		0
<b>Hours</b>		<b>0</b>
<b>Year 4</b>		
GRAD 8000	Doctoral Thesis <sup>8</sup>	0
Department Seminars/Colloquia <sup>5</sup>		0
<b>Hours</b>		<b>0</b>
<b>Total Hours</b>		<b>9-15</b>

<sup>1</sup> Administered by the department, this placement test written in the chosen sub-discipline (e.g., Analytical, Biochemistry, Inorganic...) will help orient the student's course selection.

<sup>2</sup> Does not need to be re-taken if completed in the MSc stream.

<sup>3</sup>

- **For direct entry or transfer from U of M Chemistry MSc stream holding a recognized MSc degree:** Two additional courses at the 7000 level
- **For direct entry or transfer without a recognized MSc degree:** Four additional courses at the 7000 level

<sup>4</sup> Submitted to the advisory committee before the end of the student's first year in the graduate program.

<sup>5</sup> Attendance at all departmental seminars is mandatory throughout the graduate program, and will be enforced by the advisor.

<sup>6</sup> The candidacy examination will normally be held near the end of the student's second year in the graduate program.

<sup>7</sup> Before the end of the third year, a candidate must present a 45 – 50 minute seminar to the Department on the background to and results of their own research. Scheduled by the Department Seminar Coordinator.

<sup>8</sup> The oral thesis defence should take place near the end of the student's fourth year in the program.

- meet the minimum and not exceed the maximum time requirements (in terms of time in program and lapse or expiration of credit of courses).

## 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 returning and new graduate students in the Department of Chemistry must complete a Graduate Program Approval form and consult with the Academic Programs Administrator. The selection of courses and changes in a student's program must be initiated by their graduate advisor in the case of Masters students or their advisory committee in the case of doctoral students. Students should consult the Academic Programs Administrator.

## 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