

CIVIL ENGINEERING, PH.D.

Civil Engineering

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Academic Staff: Please refer to the Civil Engineering (<https://umanitoba.ca/engineering/faculty-staff/civil-engineering/>) website for Faculty information.

Civil Engineering Program Information

The Department of Civil Engineering offers programs of coursework and research leading to the Master of Science, Master of Engineering and Doctor of Philosophy in: environmental engineering; geotechnical engineering; structural engineering; transportation engineering and water resources engineering.

Admission Information

Admission to the Faculty of Graduate and Postdoctoral 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.

Civil Engineering Ph.D. Admission Requirements

Admission to the Ph.D. program is normally from the Master's degree level, i.e., M.Eng. or M.Sc. Students in a Master's program who have achieved an average GPA of 4.0 in their last 60 credit hours of undergraduate studies may be allowed to transfer to the PhD program without being required to write a Master's thesis provided they meet the following conditions:

1. Completion of 6 graduate courses (18 credits) with a grade of A or better in each;
2. Satisfactory progress in the research program;
3. Written recommendation from the supervisor, the thesis advisory committee and a selection committee (appointed by the head);
4. Approval by the department and Faculty of Graduate Studies.

The transfer must take place within 20 months of initial registration in the Master's program. Following transfer, all the requirements of the doctoral program apply, including the completion of an additional 12 credit hours at the 7000 level.

Application Information

Students should complete and submit their online application with supporting documentation by the date indicated on the Civil Engineering

Ph.D. program of study (<https://umanitoba.ca/explore/programs-of-study/civil-engineering-phd/>) page.

Degree Requirements

The Ph.D. program consists of coursework, original research and thesis. A minimum of 12 credit hours of coursework (all at the 7000 level) is required beyond the Master's degree or its equivalent. The program of study must be approved by the student's advisor, the advisory committee and the Department Head.

It is the department's policy that graduate students shall take at least 6 credit hours in their core area of research within Civil Engineering with no more than 6 credit hours of graduate level courses from one professor.

Expected Time to Graduate: 4 years

Progression Chart

All students must register in GRAD 8020 each term (Fall, Winter & Summer) as long as they are in the program.

Course	Title	Hours
Year 1		
GRAD 7300	Research Integrity Tutorial	0
GRAD 7500	Academic Integrity Tutorial (must be completed first term)	0
COURSE 7XXX	Courses designated 7000 level or above ¹	12
GRAD 8010	Doctoral Candidacy Examination ²	0
	Hours	12
Year 2		
GRAD 8000	Doctoral Thesis ³	0
	Hours	0
Years 3-4		
GRAD 8000	Doctoral Thesis ⁴	0
	Hours	0
	Total Hours	12

¹ The Ph.D. program consists of coursework, original research and a thesis. A minimum of 12 credit hours of coursework (all at the 7000 level) is required beyond the Master's degree. The program of study must be approved by the student's advisor, the advisory committee and the Department Head. For students who have transferred directly from the Master's program, all the requirements of the doctoral program apply, including the completion of an additional 12 credit hours at the 7000 level. It is the Department's policy that graduate students shall take at least 6 credit hours in his/her core area of research within Civil Engineering with no more than 6 credit hours of graduate level courses from one professor.

² The examination process starts upon completion of most of the required coursework but must be completed **within the first 12 months** after the student's initial registration in the Ph.D. program. The student must complete a Ph.D. Proposed Program of Study Form and have it approved by the advisor and the department before starting the candidacy exam process.

³ **No later than 16 months** after the students initial registration in the Ph.D. program, the Ph.D. candidate will be required to submit a detailed research proposal to the Ph.D. Advisory Committee. The proposal must document the research objectives, relevant background literature, required experimental, analytical or computational approaches, and projected timetable for completion of the steps necessary in the

research. The proposal is normally about 10,000 words (40 pages), not including the bibliography. The candidate will be required to make an oral presentation of the proposal (approximately 20 minutes), followed by questions directly related to the proposal. Maximum duration of the question period will be 2 hours.

⁴ The final examination for the Ph.D. degree proceeds in two (2) stages:

- Examination of the candidate's thesis by an internal and external examiner;
- Oral examination of the candidate by all examiners on the subject of the thesis and any matters relating thereto.

Registration Information

Students should familiarize themselves with the Faculty of Graduate and Postdoctoral 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.

Courses are subject to cancellation if there is insufficient enrolment. Courses with insufficient enrolment may be cancelled the first week of classes. Not all courses will be offered each year — contact the department for courses that will not be offered. All returning and newly admitted students must see an academic advisor or the department head prior to attempting to register.

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 and Postdoctoral 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).