

PhD Program Structures in Canada

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In Canada, the successful completion of a doctoral degree is typically a multi-stage process that includes a series of required and elective courses, a set of comprehensive exams, and the research, writing and defense of a dissertation or thesis. Variations exist among programs with regards to the number and types of courses required, the intensity and duration of the comprehensive exams, the existence or not of a thesis proposal, and the layout and presentation of the thesis, however these four program components are the norm among PhD programs in Canada. The typical PhD program is structured in such a way that it can be completed in four years, however in many cases it can take up to six to seven years for a student to complete their degree. Typically, the first two years of the PhD program are devoted to course work and comprehensive exams, with the remaining years devoted to research and thesis preparation.

Having consulted websites of universities offering doctoral programs across Canada, this report offers information about the components offered in PhD programs in Canada, both well established common practices and newer, innovative initiatives. With the number of doctoral programs in Canada and internationally continuing to increase, we are sure to see new and innovative ways in which doctoral programs are offered across the country.

Must Haves

❶ *Thesis (and Defense)*

This study could find no instance in which a doctoral program did not include some form of thesis/dissertation as a requirement. An oral defense of the completed thesis is also a requirement. The third and fourth years of a four-year program are typically devoted to research, and the subsequent writing of the thesis.

The majority of universities offering doctoral programs in Canada have procedures in place that govern the various stages and processes of thesis completion and defense. Universities like McGill have procedures in place governing the preparation and submission of the thesis. The Faculty of Graduate Studies at St Mary's University in Halifax lays out an agenda for the PhD thesis defense, as do the majority of other universities in Canada. Procedures can vary by program, however the general layout is typically the same, whereby the candidate makes a presentation summarizing their thesis, followed by questions from each of the examiners. The majority of universities in Canada limit the size of their PhD thesis examination committees to four people (including one external examiner from outside the institution). In many cases, universities stipulate that at least one of the members of the oral defense

examination committee must not be a member of the student's supervisory committee. The examiners then vote on whether or not the candidate has passed their defense, and any next steps required.

For a more detailed account of the procedures in place for PhD theses examinations in Canada, please consult the report commissioned by CAGS entitled *Canadian Practices Related to the Examination of PhD Theses*, written by Fred L. Hall.

② *Comprehensive Exam*

The comprehensive exam is a requirement in the majority of PhD programs in Canada, and is in place to ensure that doctoral students have a broad and comprehensive understanding of their field/discipline. The exams are typically taken after all required coursework is completed, and are usually given on a pass/fail basis.

The majority of universities offering doctoral programs in Canada set out procedures for the doctoral comprehensive exams, which can include the timeline for the exams, requirements of the student and exam committee, composition of the exam committee, scope of the examination, the requirements for a passing of the exam, and the next steps following a pass/fail. Students must complete and pass a comprehensive exam in order to be considered a PhD candidate, and permitted to continue on into thesis research and writing. The University of British Columbia notes that, while the exams are a requirement in all doctoral programs, the nature of the examination can vary widely between graduate programs. The Faculty's website stipulates that "It is important that graduate programs develop and make available to all new doctoral students (and faculty) a written statement clearly outlining their policies and procedures for the examination including; purpose, timing, examination format, examination committee, scope, criteria for evaluation, and adjudication."

③ *Courses*

In Canada, PhD students must complete a certain number of required and elective courses, typically in combination with a comprehensive exam and the thesis/dissertation proposal, completion, and successful defense. Courses are most frequently completed in year 1.

While the number of courses required can vary between programs, for those entering the PhD after the completion of a master's, the range seen in this research is typically anywhere between two to six courses (six to eighteen credits). For those fast-tracking from the master's to the PhD, a combination of master's and PhD courses is usually required. Again, the number of courses varies depending on the program, though a common distribution appears to be a minimum of two courses at the master's level and two courses at the PhD level.

④ *Thesis Proposal*

The majority of doctoral programs in Canada require that students prepare a thesis proposal which includes a description of the proposed research and a working bibliography of the primary and secondary texts that will serve as the source material for that research. These documents are typically prepared in consultation with the student's supervisor and the other members of the student's supervisory committee.

This proposal is typically submitted and approved by the end of the second year or beginning of the third year of the program. Proposal requirements can vary by university and by program, and many programs require that the student defend the proposal in front of a committee. The Department of Political Science at the University of Toronto recommends that student proposals contain at least five components, including the identification of a research question, how the question is situated in relevant literature, and the research design.

Highly Recommended

❶ *Thesis Advisory Committee, Annual Meetings and Reports*

Many universities have policies in place requiring that doctoral students meet regularly with their thesis advisor and/or their thesis advisory committee. Regular annual progress reports are also required of the student throughout their program. In their Doctoral Student Handbook, the School of Kinesiology and Health Studies at Queen's University sets out the expectations and requirements of the student and their Thesis Advisory Committee.

❷ *Minimum Funding and Support Policies*

While funding available to doctoral students can vary widely depending on the program and university selected, a typical minimum funding policy is in place at many universities. Many programs set a minimum of \$18,000 per year available to doctoral students for their first four years of study, and this can be composed of scholarship(s), research and/or teaching assistantships. Again, this number is a minimum, and many programs offer more than this to selected doctoral students. Students are generally recommended for funding by the department to which they apply to the university's Faculty of Graduate Studies at the time of admission.

Memorial University in Newfoundland has policies in place dictating the minimum requirements needed to be considered for funding at the time of admission, the minimum funding available, and the academic and other requirements that funding recipients must adhere to in order to maintain their scholarship or other funding source from year to year.

❸ *Professional Development Program*

In order to prepare doctoral students for careers in the public or private sectors, as well as careers as teachers and researchers in academia, many universities offering graduate programs in Canada are also increasingly offering some form of professional development program or training to their students. The number and subjects can vary widely. This appears to be a growing area, in which workshops are constantly being added and modified based on student demand and changes in teaching and employment-related skills.

Examples include the Graduate Professional Skills Program at the University of Toronto, which includes courses in Communication & Interpersonal Skills, Personal Effectiveness, Teaching Competence and other areas; the Graduate Student Instructional Skills Workshop at the University of British Columbia.

and York University's Career Centre, which offers career exploration workshops and advising sessions to PhD students to assist in their future employment search.

④ *Departmental Seminar Presentation*

Many PhD programs require that their students complete one or more seminar presentations at the departmental level. In these presentations, students are typically required to speak about their thesis research and the departmental presentation must be successfully completed before the thesis defense date can be set. Departments set their own guidelines governing these presentations, and the Earth Sciences PhD Program at Simon Fraser University offers one example.

⑤ *Orientation Week*

Many universities in Canada offer an orientation week for their graduate students, in an effort to familiarize them with their new campus. The University of Ottawa's Welcome Week invites students to take part in a variety of activities, including informational events through their faculties, BBQs, movie nights, and a tour of the city by double decker bus. At the University of British Columbia, a main orientation day with a variety of information sessions is followed by a week of activities, including more information sessions as well as social events.

⑥ *Course/Workshop on Academic Issues (Ethics, Research Integrity, Intellectual Property)*

Many universities offer workshops to graduate students that deal with a variety of academic issues. Universities in Canada often require that their graduate student complete some form of training in research ethics. The amount of training required of graduate students can vary widely. The University of Alberta, as an example, requires that all graduate students complete at least eight hours of graduate ethics training before they can receive their degree. Other universities offer research ethics workshops to graduate students, though some on a mandatory and others on an optional basis.

Queen`s University`s School of Graduate Studies offers a variety of workshops to graduate students under several different themes, including Ethics, Society & Civic Responsibilities. Workshops in this theme include Intellectual Property, Integrity in Research & Academics, and Intercultural Competencies, among others.

Nice to Have

① *Conference Travel / Research Budget*

Many universities have funds in place, often on a competitive basis, to support full-time doctoral students in their efforts to disseminate their research at scholarly conferences. In some cases, like at the University of Victoria, the amount of funding available can depend on the location of the conference (more available for those outside the province, with additional funding sometimes available for international travel). The amount available to doctoral students varies among universities, from a few hundred dollars to several thousand available over the duration of the student's program.

Selection criteria and application requirements (deadlines, requirement of a conference report submitted after attendance, etc) also vary by university. A few examples include McGill's Faculty of Arts, which awards up to \$2,000 in travel awards over the course of each student's graduate career; the Faculty of Graduate Studies Travel Awards at the University of Calgary; Conference Travel Grants at the University of Ottawa; the University of Toronto; and the University of Alberta.

In addition to the support provided by the Faculties of Graduate Studies, the Graduate Students' Associations at some universities in Canada have funds available on a competitive basis to support doctoral student travel to attend conferences. The Graduate Students' Union at Memorial University offers up to \$500 (over the course of their program) to eligible doctoral students to allow them to attend up to two conferences held outside of Newfoundland.

Many universities also make funds available on a competitive basis in order to support students who need to travel to conduct research towards their thesis. The University of Guelph has a variety of endowed research and conference travel grants available to graduate students. One of these, the Registrar's Grants, are available to "assist graduate students in travel related to their research needs [and associated] child care costs...", and are funded by a portion of tuition reinvestment revenue at the University. Queen's School of Graduate Studies funds up to \$3,000 for a student to travel to pursue dissertation research at a considerable distance from the University.

② *Method Course*

While generally compulsory at the master's level, some universities also offer advanced research methods courses at the departmental level to doctoral students. Courses typically provide an overview of the qualitative and quantitative research methods specific to their discipline, and can provide students with a foundation with which to begin their thesis. The unique in Canada PhD in Policy Studies program offered at Ryerson University is one example.

③ *Language Courses*

Some PhD programs include a language requirement, stipulating that students must have at least a reading knowledge of a language other than English (in the case of universities teaching in English), or a language other than French (in the case of universities teaching in French) in order to receive their diploma. The PhD program in History at the University of Manitoba requires that all students show a reading knowledge of a second language that is relevant to their research program. To satisfy this requirement, students can choose between completing a language competency test (translation exam), or successfully passing an introductory language course (with a grade of B or higher). In addition, some programs in the Humanities expect all PhD student to teach an undergraduate or graduate course at some point in their program.

Innovations

❶ *Thesis-by-Article Policy*

Also known as a thesis by publication, the thesis by article is a doctoral thesis that is a collection of research articles with introductory summary chapters. It can include already published or submitted journal articles, conference papers and book chapters. The thesis-by-article, and the more traditional manuscript style, are the two most common types of doctoral theses in Canada.

The Graduate Program of Geodesy and Geomatics Engineering at the University of New Brunswick has set out Guidelines for Preparation of Articles Format Theses/Dissertation that includes both publication and formatting requirements for theses by article. Many universities include requirements for those students choosing to complete a thesis by article within their general thesis preparation guidelines, as is the case at McGill.

❷ *Fast-Track Mechanism from Master's, with Reduction in Total Course Load*

An increasingly popular option for students is the opportunity to fast-track from the master's into a PhD program, often moving from the master's to PhD program after having completed their first year of study at the master's level. In some cases, the program is a combined master's and PhD program, allowing students to complete both degrees within a shorter timeframe.

The Graduate Program in Nursing at Western University offers a fast track option to "outstanding" MScN students allowing them to transfer into the PhD program after the successful completion of their first year of full-time study at the master's level. Students must meet certain requirements, including receiving the recommendation for fast-track from their supervisor and/or their advisory committee.

❸ *Internship Program in Workplaces*

While far from common, there are some doctoral programs in Canada offering workplace internship opportunities to students as part of their program. Students pursuing a PhD in Clinical Psychology are generally required to complete a workplace internship as part of their program. One example, the PhD program in Psychology at McGill, notes that "An unusual feature of [their] program is the existence of an "in house" internship program. That is, the requirement of a 1-year full-time pre-doctoral internship [which] can be fulfilled locally. Some students complete their internships at sites outside the Montreal area, applying through the common Association of Psychology Postdoctoral and Internship Centers (AAPIC) matching procedure. Our students have been successful in obtaining internships in this manner. However, most opt to do their internship in the McGill Psychology Internship Consortium (MPIC)."

Many universities in Canada are engaged with the Connect Canada program, a national internship program linking graduate students with Canadian companies. Students spend their internship of four to six months working on a research issue that has been vetted by a panel of industry and academic members. During their internship, students spend at least half of their time at the company and the remaining time on their university campus.

Scholarships for Industrial Research are also available from several sources to support graduate students in science and engineering disciplines interested in gaining industry research experience. Examples

include the Natural Sciences and Engineering Research Council of Canada (NSERC)'s Industrial Postgraduate Scholarships Program, and the Mitacs-Accelerate research internship program.

④ *International Joint PhD / Cotutelle Policy*

Universities in Canada are becoming increasingly international on a variety of fronts. This includes the growing innovation of offering doctoral students the opportunity to complete a Joint PhD or Cotutelle degree in partnership with another university abroad.

The Joint PhD degree is a program that is shared by the doctoral student with a university in Canada and one or more institutions abroad. The Cotutelle ("co-tutoring") degree is similar to the Joint PhD; it originated in France and is offered through an agreement made between a Canadian university and a university abroad. A cotutelle student's host institution may be in Canada or abroad. Students are co-supervised at each of the institutions, and cotutelle agreements are completed and signed by both institutions. These agreements stipulate the requirements of each institution, the expectations of the student, and the program and format of the PhD degree that is being pursued as a cotutelle. An example of this agreement can be downloaded from the University of Calgary's website. In general, the student completes one comprehensive exam and one thesis, and upon graduation they receive a separate degree from each institution. In some cases, the student receives one diploma with the logos of both institutions included.

The demand by doctoral students for international experience is increasing, and universities in Canada are striving to meet this demand by increasing the number of Joint PhD / Cotutelle agreements between their students and institutions abroad. Examples include the Université de Sherbrooke, the University of Ottawa, the University of British Columbia, Memorial University, Simon Fraser University, Carleton University, Queen's University, and others.

There is also the Visiting Research or "Sandwich" Program, in which a graduate student registered at a university in Canada can spend several months conducting research with a supervisor at an international university, before returning to their Canadian university to complete and receive their degree. Many universities outside of Canada also choose to send their graduate student to Canada for research purposes. One example, the Université de Montréal, offers to opportunity for international graduate students to complete several months of thesis research at their institution.

⑤ *Part-Time or Flexible-Time Program*

The vast majority of PhD programs in Canada require that students be registered full-time for at least the first four years of their program. In most cases, students must remain full-time students in order to maintain any funding that they receive from their university, as well as any funding received from external agencies.

A relatively new phenomenon is the introduction of the flexible-time or part-time PhD program. These programs allow students to complete the entirety of their program on a part-time or flex-time basis, assuming that students are electing to remain employed while completing their degree. The PhD in Pharmaceutical Science at the University of Toronto allows some students to complete their degree through the flexible-time stream, noting that "The only difference between the flexible-time and the full-

time PhD program is the flexible delivery of the program, which allows students a more flexible timeframe for completion, and to remain employed during the course of their program."

Wilfrid Laurier University's PhD in Social Work is another program offered to qualified individuals on a part-time basis, with a more flexible 7 year completion timeframe. Part-time students follow the same curriculum as full-time students, and must be flexible enough to take courses in the semesters in which they are offered. Criteria for admission are the same as those applying to the full-time program, however requirements once a part-time student is admitted (successful submission of a plan of study, etc) may differ slightly from those required of full-time students.

⑥ *Completion of Diploma in Combination with the PhD*

Some universities offer diploma programs in a variety of fields to students already enrolled in a PhD program at their institution. These allow students to complete a certain number of courses, in addition to the course requirements of their PhD program, earning a diploma that can serve to complement or enhance their PhD degree. The University of Ottawa offers a number of graduate diploma programs, including those available only to current PhD students such as the Graduate Diploma in Scientific Management and Leadership. This diploma program is offered by the Telfer School of Management in conjunction with the Faculty of Graduate and Postdoctoral Studies, and is available only to current PhD students in the Faculty of Science.

⑦ *Interdisciplinary Theses*

Certain universities in Canada are currently offering a PhD in Interdisciplinary Studies. The University of British Columbia, which offered the first PhD program in Interdisciplinary Studies in Canada in 1971, continues to engage prospective students in inviting them to bring together three or four faculty members as supervisors from different units in any discipline, effectively creating their own interdisciplinary program and thesis.

⑧ *Doctorate instead of PhD*

Several universities in Canada offer professional graduate programs called Doctorates rather than the more traditional PhDs. Unlike the PhD, Doctorate degrees are not necessarily intended to equip students to be researchers but are related to professional practice in the workplace. The Faculty of Graduate Studies at Brock University has compiled a report, The Professional Doctorate: An Overview, that provides information about professional doctorate programs in Canada, as well as abroad.