

Physics Graduate Program Policy (PGPP)

Concordia University

Department of Physics

(updated May 2022)

This document details the departmental-level policies of the MSc and PhD programs in Physics at Concordia University. The Graduate Program Committee (GPC) may authorize exceptions to this policy in rare and well-justified cases by unanimous vote, but this is discouraged. Any permanent changes to the policy must be approved by the GPC and the Departmental Council.

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1 Admission into the graduate programs of the Department of Physics

1.1 Eligibility for admission

An applicant is deemed eligible for admission for a graduate program on the basis of having completed previous academic degrees in Physics or related disciplines (MSc or equivalent for admission into the PhD program; BSc or equivalent for admission into the MSc program).

The deadlines for receiving applications for admission in the Fall and Winter terms are April 15 and August 1, respectively. International applicants are encouraged to apply before March 15 and July 15, respectively, to allow for the lengthy processing of immigration paperwork.

1.2 Admission criteria

The criteria used to determine whether an applicant will be offered entry into a graduate program are:

1. Academic merit, as reflected from previous grades, the statement of purpose, letters of recommendation, and any other materials available in the application.
2. For direct admission into the MSc program, the minimum required undergraduate cumulative grade point average (CGPA) is 3.0 out of 4.3 (a grade of B) or equivalent.
3. For direct admission into the PhD program, the minimum required MSc CGPA is 3.0 out of 4.3 (a grade of B) or equivalent.
4. Availability of a faculty member (the supervisor) willing to take on the duties of supervising the applicant's program of study.
5. Availability of an appropriate financial support package, including the support mentioned in sections 1.4 and 1.5 below. This support should be sufficient to cover the international tuition fees for MSc international students. International PhD students must receive an international tuition remission award.
6. English language proficiency, as evidenced by minimum scores in recognized tests (such as TOEFL and IELTS), or by documents supporting the applicant's attendance to program of study at an English-only institution. The up-to-date requirements for proof of English proficiency can be found [here](#). In exceptional cases, it may be possible to waive this requirement with proper justification.

1.2.1 Non-standard admissions

In special cases, students may be admitted even if they do not meet the admission criteria described above. All non-standard admissions must be approved by the GPC and SGS.

Direct admission from BSc to PhD

Applicants with a strong record may be admitted directly into the PhD program even if they only have a BSc degree. The prospective supervisor must justify, in writing, why such an admission is warranted and demonstrate that the candidate has learning and research accomplishments comparable to a MSc (e.g. it could be via with a peer-reviewed publication).

Fast-track from MSc to PhD

MSc students that show strong performance may be transferred directly to the PhD program (“fast-tracked”) during or after their first year of studies. Fast-tracking is not recommended for all students, as it may have adverse implications in terms of tuition fees (particularly for international students) or student development in some cases.

Low-GPA admissions

An applicant may be considered for admission into the MSc program, even if their GPA is below the 3.0 (or equivalent) requirement, if they satisfy all of the following conditions:

- a) A faculty member must sponsor the application and be willing to support the student. This includes writing a strong supporting reference letter for the applicant.
- b) The applicant has done research work for a duration of at least one term under the direct supervision of the faculty sponsor. PHYS 496, PHYS 497, externally or internally funded research internships, and Co-op work terms are some examples of the type of eligible work experience.
- c) The applicant must show an improvement in their grades towards the end of their degree, or other strong evidence that can be used to justify their admission to the School of Graduate Studies.

An applicant that satisfies these conditions, with a GPA between 2.7 and 2.99 can be approved by the GPC for direct admission into the MSc program.

An applicant that satisfies these conditions, with a GPA between 2.5 and 2.69 can be approved by the GPC for admission into a two- or three-term (at the discretion of the GPC) Qualifying Program (QP).

1.3 Full-time or part-time status

Students in the MSc or PhD programs are accepted as full-time or part-time students at the time of admission. These students are considered to be full-time or part-time according to their status at admission, regardless of any other factors. Their classification will change only if they submit a request to change their status. Supervisors are encouraged to discuss this issue with a student whose status does not match their current situation.

1.4 Teaching assistantship financial support

When admitted into the MSc/PhD program as a full-time graduate student, any interested candidate/supervisor receives a pledge of financial support in the form of a Teaching Assistantship (TA) for a minimum of 7 semester / 13 semesters (MSc / PhD). The TA work consist normally of 10 hours per week during each of the Fall and Winter semester (13 weeks each), and half of the Summer semester (6.5 weeks). The pay rate is set out in the [TRAC collective agreement](#), and in 2022-2023 will be of \$29/hr.

It is possible for a student to decline TA work at any time, but in doing so they would forfeit the financial support commitment from the TA. It is also possible for a supervisor to reduce the TA work of their student by replacing it with an equivalent value increase in research bursary support (maintaining the total financial pledge made on the letter of admission). However, *if the letter of admission* specified that TA is part of the financial support for the student, a supervisor cannot replace more than 60 % / year of the TA work hours by an equivalent bursary (i.e. a minimum of 13 weeks at 10h / wk of TA work must be done per year)*. This policy is to (i) foster the development of teaching skills for graduate students, (ii) maintain the teaching quality of our BSc programs and the interactions between BSc and graduate students, and (iii) maintain a reasonable level of equity in workload across all graduate students. Special circumstances will be accommodated when needed, as we always strive to support each and every student.

*For letters of admissions emitted before this policy is officially adopted (Summer 2022), this would not be enforced but only done on a voluntary basis with the collaboration of supervisors and students.

1.5 Research bursary funding

Research thesis supervisors are required* to contribute a *minimum* research bursary of \$10,000/year in order to recruit a full-time graduate student. While an amount of \$11,000/year or more is strongly recommended and should be the norm. *The GPC will review these numbers annually and increase them as often as possible while respecting the limits of available research funding.* *Note: supervisors are exempt from this contribution if a student earns a major external award (or a competitive internal award - not an admission one) which plays the same role as a research bursary but has a larger monetary value (e.g. Tri-Council fellowships, FRQNT, etc.). Part-time students may be recruited with no supervisor funding, but each case must be approved by the GPC.

A research bursary is akin to a scholarship, in the sense that it is an amount of money given to a student to help them support their course of study. The act of giving a research bursary to a student does not enter the student into an employment relationship, and, as such, cannot be used to impose on the student conditions resembling employment, for instance, a fixed amount of time of presence at the workplace, specific tasks not directly related to their thesis research, etc. If a supervisor would prefer the student to be in an employment relationship with the University, they should support the student via a research assistantship (subject to the rules of the TRAC collective agreement) which must abide by the same minimum amounts (in terms of funds received by the student, without counting benefits or other contributions) as a research bursary.

1.6 Conditional admissions

If an applicant has been approved for admission, but the file lacks official copies of documents (such as transcripts or recommendation letters), the applicant may be presented an admission offer conditional on receiving the missing documents. The admission letter must state a deadline for the department to receive the missing documents and satisfy the condition.

If an applicant has been approved for admission but their English language proficiency test scores fall within the range where the University requires supplemental English classes (see <http://www.concordia.ca/admissions/graduate/language-proficiency.html>), they can be offered an admission conditional on presenting satisfactory tests scores or on taking the required English classes. The admission letter must specify a deadline for these requirements to be satisfied and it must also

indicate that the student is responsible for paying the full tuition fees associated with the English classes.

The GPC can decide to make offers with other types of conditions. These conditions must be clearly specified in the admission letter as well as a deadline for their completion. If a student's admission condition is not satisfied after the specified deadline, the GPC, in consultation with the Faculty of Arts and Science, will make a decision about the actions to take.

It should be noted that offering conditional admission to international students can result in problems for the student, the supervisor, and the department. Given this, the policy recommends that conditional admissions be offered to international applicants only as a last resort. In this case, the supervisor must take into account the time commitments the students will have to meet in order to fulfill their admission conditions.

1.7 Issuing letters of admission

It is assumed that before bringing student's file for consideration by the GPC the supervisor(s) made a firm decision to support the student and to promptly issue the letter of admission. Once the GPC makes the decision to admit the student, the GPA prepares the letter of admission and sends it to the GPD and the supervisor(s) for final verification of financial and other details. The supervisor(s) are expected to confirm their decision to accept the student and their financial commitments within five business days since receiving the draft of the letter from the GPA. Should supervisors(s) fail to confirm their decision, the file automatically returns for reconsideration at the next GPC meeting and any awards assigned to the student are returned to the departmental awards pool.

2 Program completion requirements

The [Graduate Calendar \(GC\)](#) lists the main program milestones and University-level requirements to graduate. The present department-level Physics Graduate Program Policy (PGPP) provides details (see below) about the specific format, administration, and timing of milestones in the department, and was collectively agreed upon by the faculty members of the Department of Physics. In addition to the information in the GC and PGPP, the research supervisor(s) and supervisory committee manage the specialized expectations for the graduate student's "Research and Thesis" credits (research group

meetings, conferences, publications, thesis), within the bounds of the GC and PGPP rules.

2.1 Coursework requirements

All coursework requirements are subject to the requirements stated in the current Graduate Calendar entry for the corresponding program.

<http://www.concordia.ca/academics/graduate/calendar/current/fasc/phys.html>

Course substitutions

The Graduate Calendar lists all the courses that graduate students can take for credit towards their coursework requirement. For a course outside of this list to be used to satisfy this requirement, the supervisor must justify, in writing, how this course can substitute a course in the list; this justification must be approved by the GPD.

Graduate reading courses

Supervisors may request to offer a graduate reading course in their specialty, but this is discouraged by the Department. If there exists a *very strong reason* to provide a graduate reading course, the request must be approved by the GPC and Chair before the course can be offered. Graduate reading courses do not count towards a faculty course load, and graduate students can only take one such course during their studies (including both MSc and PhD) and have it count as a required course.

2.1.1 MSc coursework

As part of the academic requirements for obtaining a Master of Science degree in Physics, a student must successfully pass three regular graduate-level courses. At least one of those courses must be from the Department of Physics. Students in the MSc program are generally expected to have finished their coursework by the end of their fourth term.

2.1.2 PhD coursework

As part of the academic requirements for obtaining a Doctor of Philosophy degree, a student must successfully pass three regular graduate-level courses. At least one of those courses must be from the Department. PhD students who have done their MSc degree in the Department must take at least two courses offered by the department during their combined MSc and PhD studies. Students in the PhD program are generally expected to have finished their coursework by the end of their fourth term.

Fast-tracked PhD students

Students fast-tracked from the MSc to the PhD, must successfully pass a total of six graduate courses, of which at least two must be offered by the Department. Any exception to this rule must be approved by the GPC.

2.2 Examinations

As part of their degree requirements, graduate students must successfully pass the following examinations. Students must follow current processes to schedule these examinations.

MSc Thesis Evaluation

MSc students have to pass a written thesis examination (evaluation of their thesis) during their program of studies, the Master's research and thesis (PHYS 790). The SC of the student acts as the Thesis Committee evaluating their MSc thesis. A minimum of two full weeks (10 work days), must be given to the SC to read and evaluate the MSc thesis, after the completed thesis is submitted to them. Since Summer 2021, the Department of Physics no longer requires an oral thesis defence for MSc students. However, if both the student and SC wishes, such a defence can be scheduled and will help the SC evaluate the MSc thesis. In the absence of a MSc defence, *a SC meeting with the student being present is required to take place (at least 2 weeks after submission, but no more than 4 weeks after submission), so that the SC can collectively agree on the thesis evaluation and explain the required thesis corrections to the student.* If a member of the SC cannot be present at the meeting, they must send a detailed written assessment of the thesis to the other SC members before the meeting.

PhD Comprehensive Exam

PhD students must pass the comprehensive examination and research proposal (PHYS 870) as part of their requirements. The Comprehensive Examination (PHYS 870) will normally be scheduled after the student has completed their 3 regular program courses, and has achieved some minimal preliminary results in their research project (i.e. between 1.5 year and at most 2.5 years after their entry into the PhD program – *for exceptions the supervisor shall contact the SC and GPD*). The student will contact their SC to schedule the exam or be reminded by their supervisor. This exam can also count as an annual supervisory meeting, but for this to happen a regular progress report form must be filled out. The format of the exam will consist of two parts, a written report which must be submitted to the SC at

least one week before the exam, and an oral part taking place during the exam.

The report shall typically be around 15 - 20 pages (in a double interline spacing, including figures and references), and the intent is that in some/most cases this work could become a small section (e.g. in methods, literature review) of the student's future PhD thesis. The oral presentation shall be around 20 minutes followed by a question period. The duration of the oral exam (presentation and questions) cannot exceed 2 hours. The topic and structure of the report and oral presentation shall be agreed upon by the SC i.e. before the scheduling of the exam. The topic should combine some fresh learning for the student (e.g. solving a discipline or research-specific problem as yet unsolved, or learning and presenting a new and related method, or expanding the scope of their literature review) but also focus on testing their plans, skills and knowledge for their proposed thesis work (e.g. literature knowledge, research methods and plan, and physics or biophysics fundamentals). In the unexpected instance where a student fails the comprehensive examination, the SC must offer the student a second chance. A student who fails the comprehensive examination for a second time must withdraw from the program.

PhD Thesis and Defence

Submission and defence of the doctoral thesis (PHYS 890) must proceed according to the rules and timetables set by the [Thesis Office in the School of Graduate Studies](#).

2.3 Seminars

As part of their degree requirements, all graduate students must successfully complete seminar courses. For MSc student the requirement is to complete the seminar course PHYS 760, and for PhD students to complete seminar courses PHYS 861 and PHYS 862. Details are discussed below and can be found directly in the graduate calendar. *We strongly encourage all graduate students to attend the Department's weekly research Colloquium*, to meet other students, learn about effective scientific presentation skills, and maintain a broad knowledge of science to stimulate their creativity. However, there is no program requirement to attend seminars or colloquia excepts the ones listed below.

Research Seminar (For MSc students: PHYS 760; For PhD students: PHYS 862)

This is a mandatory research seminar course. The course load is equivalent to $\frac{1}{2}$ of a regular course, even though it gives a full 3 credit towards the student's graduation. It can be taken in the Fall semester

or Winter semester, but not in the Summer. The student should normally do this in a semester ahead of their graduation, but only after completing their three regular graduate courses. For PhD students, it should normally be taken after the comprehensive examination (PHYS 870). In this course, the students attend a weekly workshop on scientific written and oral communication (which includes the student seminar presentations). Each student must present one oral seminar about their current research and write a short proposal (for a small grant or external scholarship) to complete PHYS 760/862. This course is evaluated on a pass/fail basis.

Pedagogical Seminar (For PhD student only: PHYS 861)

This is a mandatory seminar course* which is aimed at exposing PhD students to a broad range of pedagogical scientific seminars over the span of one academic year (Fall and Winter semesters, two-semester course) with one weekly meeting (Departmental Colloquium). This course is evaluated on a pass/fail basis, and a minimum attendance of 80% of the weekly colloquium is required for passing. The evaluation is based on filling a brief form during each seminar aimed at identifying the pedagogical elements and methods of the speakers. This course should normally be completed in the second or third year of the PhD program and cannot be done over Summer or in a single semester.

*Note: To ensure an equitable transition, for all in-program students taking PHYS 861 *in 2022-2023 only* they would have the option to choose between this new version or the previous PHYS 861 format. The previous format was: organize and give a 1 hour pedagogical seminar.

2.4 Supervisory Committee (SC)

Every graduate student in the Department must be assigned a SC. The role of the SC is to guide the student towards successful completion of the program, providing a complementary perspective to their supervisor. The Department encourages academic interactions between students and their SC members beyond the required annual meeting.

The SC is composed of the supervisor(s) and two more faculty members (3 faculty in total if there is only one supervisor). *At least two SC members must be full members of the Department.* An additional faculty member who is not a full member of the Department can join as a 4th member. The supervisor can propose an additional member from outside of the University; this is subject to approval by the GPC.

Research plan and formation of the SC

During their first semester, the student should form their SC and have a brief meeting (in person or electronically) with them to fill out the “supervisory committee form” and draft a one-page research plan for their thesis work. The form and research plan should be submitted to the GPD.

Annual supervisory committee meeting

Thereafter, once every 12 months, every graduate student must have a meeting with their SC. The goal of the meeting is to serve the student’s best interest by ensuring that their SC is aware of their work, progress, and challenges. The SC is tasked to provide ideas, support, and guidance or remedial solutions to ensure steady progress of the student *both in their research and program milestones*. Prior to the meeting the student will fill out the form called “progress report” in collaboration with their supervisor and send it to their SC at least one week before the meeting. At the meeting the student is expected to give a roughly 15-20 minute presentation to explain briefly various aspect of their development and progress in the program (courses, soft skills, technical research skills, seminars), and focus more in depth on their research progress (discussing whichever stage they are at: methods, data analysis, calculations, conference/manuscript participation, plan forward). The presentation will be followed by a discussion time of around 35-40 minutes where the SC will ask questions, offer ideas and guidance, and discuss constructively with the student to foster their success going forward. After the meeting the supervisor will submit the completed and signed progress form to the GPD.

3 Responsibilities of supervisors and students, and conflict resolutions

The School of Graduate Studies provide guidelines for the supervision of:

[MSc students](#) and [PhD students](#).

3.1 Supervisor responsibilities

- Supervisors of graduate students are expected to: Be familiar with and respect the present Physics Graduate Policy Document (PGPP), as well as the [Graduate Calendar’s section on Policies and Procedures](#), and the [SGS’s Graduate Handbook](#). This means that they know where these policies can be found, what are their main items, and make sure their students are aware of them. When unsure, they should consult with the GPD.

- be the main point of contact for students regarding matters involving the University;
- evaluate their student's progress over the course of the graduate program;
- oversee the research undertakings of students by mentoring and directing them;
- arrange with students mutually compatible expectations in terms of their working relationship;
- establish an appropriate supervisory committee (SC);
- prepare, jointly with the student, a research plan and timetable for the program of study;
- provide timely comments on written material submitted by students;
- play an active role in seeking to ensure the availability of basic resources required for the research;
- discuss funding/support issues with the student;
- assist and encourage the wider professional development of the student;
- ensure that the research environment is safe, equitable, and free from harassment and discrimination;
- be generally available to the student;
- make appropriate arrangements for the supervision and support of students when they go on sabbatical leave or extended absence;
- make a good faith effort to listen to student issues and to find satisfactory solutions;
- discuss issues with the student, their SC, and the Graduate Program Director (GPD) in a timely fashion in the event of a conflict in the supervisor-student relationship;
- act in a professional manner in their relationship with the student;
- set up clear expectations in terms of authorship in publications;
- be attentive to the distinctive needs and challenges of students with care-giving responsibilities;
- schedule a yearly SC meeting.

Supervisors are encouraged to keep frequent contact with students under their supervision, with at least one regularly-scheduled weekly meeting, as well as to remind them of their responsibilities.

3.2 Student responsibilities

Students are expected to:

- Be familiar with and respect the present Physics Graduate Policy Document (PGPP), as well as the [Graduate Calendar's section on Policies and Procedures](#), and the [SGS's Graduate Handbook](#). This means that they know where these policies can be found, what are their main items. When unsure, they should consult with their supervisor and/or GPD.
- maintain regular contact with their supervisor;
- prepare, jointly with the supervisor, a research plan and timetable for the program of study;
- inform the supervisor with a proper justification if they are not comfortable with the choice of member(s) for the SC;
- inform the supervisor of anything significant that may affect their academic progress or that of others;
- submit draft publication materials based on collaborative research to supervisors before submission for publication;
- maintain open communication with their supervisor, SC, and the GPD concerning any problem;
- seek advice from the supervisor about possible scholarship, workshops, and other professional development opportunities;
- keep the supervisor informed in advance of research collaborations, teaching assistantships, and research assistantships.

3.3 Problem resolution

A student's supervisor is their main point of contact with the University. As such, if students encounter issues affecting their academic or research performance, they must first discuss them with their supervisor. Similarly, if a supervisor encounters issues with the academic or research performance of a student, they must first discuss these issues with the student. Both the student and the supervisor should discuss the issue with the student's SC, and an exceptional SC meeting may be called to try to solve the issues.

The GPD oversees graduate supervision in the Department. Issues that cannot be solved by discussion at the previous levels must be reported to the GPD. Issues that cannot be solved at the GPD level (or if they involve a student supervised by the GPD) must be reported to the Department Chair. The role of the GPD and/or Chair is to mediate towards a timely and satisfactory solution to all and to inform the

students and supervisors of the best University resources/offices available to support them outside of the Department (e.g. Office of Rights and Responsibilities, SGS, Ombuds, Health Services, SARC, etc.) Emergencies should be treated as such and can bypass the Chair if needed, e.g. security office, Health services, SARC.

4 **Links to key student services and resources**

[Physics Graduate Student Welcome Pamphlet](#)

[New Graduate Student Resources](#)

[School of Graduate Studies Handbook](#)

Course Registration

[Courses at Concordia](#)

[Courses at other Universities in Quebec](#)

Graduate School

[School of Graduate Studies](#)

[Grad Pro Skills](#)

[Department of Physics Graduate Policy](#)

[Covid related info for International students](#)

! Health services ! (please know them and use them as needed):

[Health Services](#)

[Covid well-being resources](#)

[Counselling and Psychological Services](#)

[Recreation and Athletics](#)

Library and Bookstore:

[Concordia Library](#)

[Concordia Book Stop \(Bookstore\)](#)

Administrative:

[International Students Office \(ISO\)](#)

[Student Accounts](#)

[Office of Rights and Responsibilities](#)

[Birks Student Service Centre](#)

<http://www.concordia.ca/admissions/tuition-fees/calculator.html>

Scholarships and conference travel grants:

[For conferences](#)

[All other awards](#)

A few Others:

[Access Centre for Students with Disabilities](#)

[Campus Security and Emergency Services](#)

[Career and Planning Services \(CAPS\)](#)

[Concordia Student Union Off-Campus Housing \(data bank\)](#)

[French courses, etc: Réussir en français \(Département d'études françaises\)](#)