PLANT SCIENCE

About Plant Science

The Department offers an M.Sc. and a Ph.D. in Plant Science covering all fields of plant science. Research facilities—both field and laboratory—are available for investigations in plant breeding, crop physiology, crop management, crop quality, plant ecology, the epidemiology and biology of plant diseases, epigenetics, biosystematics, recombinant DNA technology, mycology, weed biology, tissue culture, plant phenotyping, plant biochemistry, and bioinformatics. Facilities include:

- Horticultural Research Centre
- Emile A. Lods Agronomy Research Centre
- greenhouses
- growth cabinets
- McGill University Herbarium
- multi-scale imaging facility
- genome editing laboratory
- plant-pest containment laboratory
- field phenomics platform

An advisory committee is named for each student and has the responsibility of developing the program of study appropriate to the student's background and area of specialization.

Plant Science Admission Requirements and Application Procedures

Admission Requirements

General

The minimum cumulative grade point average (CGPA) is 3.0/4.0 (second class–upper division) or a minimum GPA of 3.2/4.0 during the last two years of full-time university study. High grades are expected in courses considered by the academic unit to be preparatory to the graduate program.

Ph.D.

Ph.D. candidates are required to have an M.Sc. degree in an area related to the chosen field of specialization for the Ph.D. program. Outstanding M.Sc. students may be permitted to transfer to the second year of the Ph.D. program following one year of study.

Qualifying Students

Some applicants whose academic degrees and standing entitle them to serious consideration for admission to graduate studies, but who are considered inadequately prepared in the subject selected may be admitted to a Qualifying program if they have met the Graduate and Postdoctoral Studies minimum CGPA of 3.0/4.0. The course(s) to be taken in a Qualifying program will be prescribed by the academic unit concerned. Qualifying students are registered in graduate studies, **but not as candidates for a degree**. Only one Qualifying year is permitted. **Successful completion of a Qualifying program does not guarantee admission to a degree program.** The Qualifying year is only offered at the discretion of the Department.

Financial Aid

Graduate students pursuing **thesis-based programs** within the Faculty of Agricultural and Environmental Sciences (AES) benefit from diverse funding sources throughout their studies at McGill University. Financial support may come from a combination of guaranteed funding, prospective funding, and employment salary.

Upon admission to a **thesis-based program** in the Department of Plant Science, a student will be offered a **funding package** which will include a certain amount of guaranteed funding and may include additional prospective funding. The proposed funding arrangement will be outlined in a departmental funding letter addressed to the student, in supplement to the offer of admission from the University.

It is suggested that students should give serious consideration to financial planning before submitting an application.#You can find tuition and fee information on McGill's Student Accounts Graduate Fee Calculator or you may contact the Graduate Program Coordinator for your program of interest. Applicants may wish to consult theFund your Studies web page#for#financial aid#or#external scholarship#possibilities. Academic units cannot guarantee financial support via teaching assistantships.

English Language Proficiency

For graduate applicants whose mother tongue is not English, and who have not completed an undergraduate or graduate degree from a recognized Canadian or American (English or French) institution or from a recognized foreign institution where English is the language of instruction, documented proof of English proficiency is required prior to admission. For a list of acceptable test scores and minimum requirements, visit mcgill.ca/gradapplicants/international/proficiency.

Application Procedures

McGill's online application form for graduate program candidates is available at mcgill.ca/gradapplicants/how-apply.

See University Regulations & Resources > Graduate > Graduate Admissions and Application Procedures > Application Procedures for detailed application procedures.

Additional Requirements

The items and clarifications below are additional requirements set by this department:

- Acceptance to all thesis research programs depends on a staff member agreeing to serve as the student's supervisor.
- International students are strongly encouraged to secure funding from their home country or international agencies.
- The GRE – not required, but highly recommended.

Application Dates and Deadlines

Application opening dates are set by Enrolment Services in consultation with Graduate and Postdoctoral Studies (GPS), while application deadlines are set by the Department of Plant Science and may be revised at any time. Applicants must verify all deadlines and documentation requirements well in advance on the appropriate McGill departmental website; please consult the list at mcgill.ca/gps/contact/graduate-program.

Information on application deadlines is available at mcgill.ca/gradapplicants/how-apply/application-steps/application-deadlines.

Admission to graduate studies is competitive; accordingly, late and/or incomplete applications are considered only as time and space permit.

Available Programs

- Bioinformatics (Gr. Cert.) (15 credits)
- Plant Science (Non-Thesis) (M.Sc.A.) (45 credits)
- Plant Science (Ph.D.)
- Plant Science (Thesis) (M.Sc.) (45 credits)
- Plant Science (Thesis): Bioinformatics (M.Sc.) (45 credits)
- Plant Science (Thesis): Environment (M.Sc.) (45 credits)
- Plant Science (Thesis): Neotropical Environment (M.Sc.) (45 credits)
- Plant Science: Bioinformatics (Ph.D.)
- Plant Science: Environment (Ph.D.)
- Plant Science: Neotropical Environment (Ph.D.)

Program Overview

The **M.Sc. in Plant Science (Thesis)** requires approximately two years for completion. Overall, the program consists of two graduate-level courses, seminars, and a research project leading to a thesis. The courses and the research project are chosen and defined with the help of an advisory committee.

The goal of the **Bioinformatics option** is to train students to become researchers in the interdisciplinary field of bioinformatics, which lies at the intersection of biological/medical sciences and mathematics/computer science/engineering. This option has an added emphasis on bioinformatics, including additional seminars.

The **Environment option** (not currently offered) has an added emphasis on environmental sciences, including additional courses and seminars. It is aimed at students who wish to take an interdisciplinary approach in their graduate research on environmental issues and who wish to benefit from interactions with students from a wide range of disciplines.

The **M.Sc. in Plant Science (Non-Thesis)** (not currently offered) requires about 18 months or four to five terms for completion. Overall, the program consists of graduate-level courses, seminars, and a research project. The courses and the research project are chosen and defined with the help of an advisory committee.

Subsequent career paths for the **M.Sc. in Plant Science** are varied, but include work with government agencies, the private sector, or further graduate studies in a related field.

The **Ph.D. in Plant Science** requires approximately three years for completion. Overall, the program consists of seminars and a research project leading to a thesis. Students must also complete a comprehensive examination within their first year of study. The research project is defined with the help of an advisory committee.

The **Bioinformatics option** has an added emphasis on bioinformatics, including additional courses and seminars. The goal of this option is to train students to become researchers in the interdisciplinary field of bioinformatics, which lies at the intersection of biological/medical sciences and mathematics/computer science/engineering.

The **Environment graduate option** (not currently offered) has an added emphasis on environmental sciences, including additional courses and seminars. It is aimed at students who wish to take an interdisciplinary approach in their graduate research on environmental issues and who wish to benefit from interactions with students from a wide range of disciplines.

The **Neotropical Environment option** has an added emphasis on neotropical environments, including additional courses and seminars. Part of the program takes place in Panama.

Subsequent career paths for the **Ph.D. in Plant Science** are varied, but include work with government agencies, universities, or the private sector.

The **Graduate Certificate in Bioinformatics** (not currently offered) is a new cross-disciplinary program that teaches students the foundations of bioinformatics thinking, methodology, and applications through hands-on experience with computers and bioinformatics tools. The program introduces students to many areas of application such as medicine, agriculture, and chemistry. Required courses include basic UNIX skills, genomics data, common bioinformatics software, relational databases, and web resources. The Certificate is completed in one term (Winter term **only**) after which graduates may go on to pursue successful careers in the biomedical, biotechnology, and biosciences fields.

Location

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