PhD in Microbiology and Immunology
FACULTY OF MEDICINE | DEPARTMENT OF MICROBIOLOGY, INFECTIOUS DISEASES AND IMMUNOLOGY

Overview and specifics
- **NUMBER**: 3-500-1-0
- **LEVEL**: Graduate
- **TYPE**: Philosophiae Doctor [Ph. D.]
- **CREDITS**: 90 credits
- **PROGRAM TYPE**: Dissertation or thesis track
- **Admission in fall, winter and summer**
- **Day course**
- **Offered at the Montréa**
- **Full-time**

Resource persons
**PROGRAM INFORMATION**
George Szatmari 514-343-5767
Graduate Secretary 514-343-6111, poste 3129

Description
This program provides students with the opportunity to study and perform research in a wide variety of fields including bacteriology, virology, mycology and immunology.

Objectives
The general goal of the program is to train independent researchers in this discipline. Students must conduct an original research project, learn to present their research findings at scientific conferences and publish them in peer-reviewed journals, be able to develop an original research hypothesis, and explain the methods used to experimentally validate the hypothesis. Students must have the required technical skills for a career as a researcher and must develop excellent critical thinking skills to interpret their results. At the end of the program and their subsequent postdoctoral training, students should be able to compete for research grants in the field of microbiology and immunology.

Strengths
- Research laboratories equipped with state-of-the art technology
- The possibility of performing your research on campus at the Department of Microbiology, Infectious Diseases and Immunology, or at an affiliated research center:
  - Centre de recherche du CHU Sainte-Justine Institut de recherches cliniques de Montréal (IRCM)
  - Laboratoire de Santé Publique du Québec (LSPQ)
  - Institut de cardiologie de Montréal
  - Centre hospitalier de l’Université de Montréal (CHUM) and its Centre de recherche Institut de recherche en immunologie et cancérologie (IRIC)
  - Centre de recherche Guy-Bernier de l’hôpital Maisonneuve-Rosemont (HMR)
  - Hôpital du Sacré-Cœur de Montréal
  - Institut de recherche en biotechnologie (IRB)

Regulations

Université de Montréal reserves the right to modify the information in this document without notice.
2019-11-30
Studies in this program are governed by the educational regulations of the Faculty of Graduate and Postdoctoral Studies, and the following provisions:

1. Admission requirements
   To be admitted as a regular student in the PhD (Microbiology and Immunology) program, candidates must:
   - Meet the general admission requirements (section XI) of the "Règlement pédagogique de la Faculté des études supérieures et postdoctorales" (educational regulations of the Faculty of Graduate and Postdoctoral Studies).
   - Have an MSc (Microbiology and Immunology) or show proof of equivalent education.
   - Have obtained a grade-point average at the graduate level of at least 3.3 out of 4.3 or the equivalent.
   - Demonstrate good knowledge of French (learn more).
   - Have satisfactory knowledge of English and show proof of proficiency before being accepted into the second year of the program.
   - Demonstrate sufficient knowledge of any other language deemed necessary for their research.

Additional documents required for admission:

- Official transcripts and two letters of recommendation are required for admission.
- Prospective applicants are strongly encouraged to find a research director prior to submitting their application.

Application deadlines
   Before submitting an application, check the application periods for the chosen session.

   Fall
   - Fall 2020: From January 1st, 2019 to February 1st, 2020

   Winter
   - Winter 2020: From May 1st, 2018 to November 1st, 2019

   Summer
   - Summer 2020: From September 1st, 2018 to February 1st, 2020

Programs of origin
   Several Université de Montréal students in this program came from the following programs:

<table>
<thead>
<tr>
<th>PROGRAMS</th>
<th>TYPE</th>
<th>CREDITS</th>
<th>NUMBER</th>
<th>PERIOD</th>
<th>ENROLLMENT CAPACITY</th>
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<tbody>
<tr>
<td>Microbiology and Immunology</td>
<td>Master’s Degree</td>
<td>45 credits</td>
<td>2-500-1-0</td>
<td>Jour</td>
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<tr>
<td>Molecular Biology</td>
<td>Master’s Degree</td>
<td>45 credits</td>
<td>2-466-1-0</td>
<td>Jour</td>
<td></td>
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</tbody>
</table>

Program structure (3-500-1-0)
   The doctorate program consists of 90 credits.

   It also includes additional courses depending on candidates’ needs. Students are required to take seminar courses throughout the program.

   Research must be done as a residency at Université de Montréal, at a research laboratory of an affiliated institute or hospital approved by the Advisory Board of the Faculty of Medicine, or at a laboratory of the Faculty of Veterinary Medicine.

   Legend: CR: Credit, SC: Schedule, D: Day, E: Evening

   All credits in this doctorate program are mandatory. Out of the 90 credits, 87 are for research and a thesis.
Block 70A

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th>CRSC</th>
<th>COURSE</th>
<th>TITLE</th>
<th>CRSC</th>
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<tbody>
<tr>
<td>MCB 7001</td>
<td>Directed Readings in Microbiology</td>
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<td>MCB 70531</td>
<td>Research Seminar 3.1</td>
<td>0 D</td>
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<tr>
<td>MCB 70521</td>
<td>Research Seminar 2.1</td>
<td>0 D</td>
<td>MCB 70532</td>
<td>Research Seminar 3.2</td>
<td>1 D</td>
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<tr>
<td>MCB 70522</td>
<td>Research Seminar 2.2</td>
<td>1 D</td>
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MCB 70521 and MCB 70522 are equivalent to MCB 7052. MCB 70531 and MCB 70532 are equivalent to MCB 7053.

Block 70B Thesis

<table>
<thead>
<tr>
<th>COURSE</th>
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</tr>
</thead>
<tbody>
<tr>
<td>MCB 7000</td>
<td>PhD Comprehensive Examination</td>
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<tr>
<td>MCB 7902</td>
<td>Thesis</td>
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</table>

Mandatory - 87 credits

Programs to explore

Applicants interested in this program also applied to the following programs:

<table>
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<th>PROGRAMS</th>
<th>TYPE</th>
<th>CREDITS</th>
<th>NUMBER</th>
<th>PERIOD</th>
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</thead>
<tbody>
<tr>
<td>Biomedical Sciences</td>
<td>Doctorate</td>
<td>90 credits</td>
<td>3-484-1-0</td>
<td>Jour</td>
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<tr>
<td>Molecular Biology</td>
<td>Doctorate</td>
<td>90 credits</td>
<td>3-466-1-0</td>
<td>Jour</td>
</tr>
<tr>
<td>Molecular Biology</td>
<td>Master’s Degree</td>
<td>45 credits</td>
<td>2-466-1-0</td>
<td>Jour</td>
</tr>
<tr>
<td>Virology and Immunology</td>
<td>Doctorate</td>
<td>90 credits</td>
<td>3-503-1-1</td>
<td>Jour</td>
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</table>
Research expertise at a glance

Research areas
- Immunology
- Bacteriology
- Cytometry
- Mycology

Research centres
- Institut de Recherches Cliniques de Montréal (IRCM) : http://www.ircm.qc.ca/Pages/IRCMDefault.aspx?PFLG=1033&lan=1033
- Centre Hospitalier de l’Université de Montréal (CHUM) : http://www.chumontreal.qc.ca/
- Centre de recherche Maisonneuve Rosemont : http://recherche.maisonneuve-rosemont.org/en-ca/home.html
- Centre de recherche Guy-Bernier
- Institute for Research in Immunology and Cancer (IRIC) : http://www.iric.ca/en/
- Réseau canadien pour l’élaboration de vaccins et d’immunothérapie (Réseaux CANVAC)
- Canada’s Research Network in Aquaculture (AQUANET)

Find out more : http://microbiologie.umontreal.ca/

Professors
Consult the list of the department’s faculty members and their specializations : http://microbiologie.umontreal.ca/recherche/professeurs-chercheurs/

Directory of theses and dissertations
Visit Papyrus, Université de Montréal’s institutional repository, to search for research projects by our faculty and researchers as well as theses and dissertations by our students : https://papyrus.bib.umontreal.ca/xmlui/?locale-attribute=en

Research news
Read the latest research news from UdeM : http://nouvelles.umontreal.ca/en/