





# PhD in Biochemistry

FACULTY OF MEDICINE | DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR MEDICINE

## Overview and specifics

NUMBER	3-465-1-0
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 Montréal
-  Full-time

## Description

This doctorate program provides in-depth training in biomedical and basic research with a seminar course and as much time as possible dedicated to laboratory work.

## Objectives

The program gives students a background in biochemistry and molecular biology research. Students will carry out a laboratory research project under the supervision of an experienced professor or researcher. Once they finish their projects, which generally take between two and five years, graduates can directly enter the job market or continue their training with a postdoctoral fellowship that may eventually lead to a research position.

## Comments

Also see the provisions for direct entry to the PhD programs in the Faculty of Medicine [FR](#) .

## Regulations

Studies in this program are governed by the educational regulations of the Faculty of Graduate and Postdoctoral Studies, the provisions for direct entry to the PhD programs in the Faculty of Medicine, and the following provisions:

### 1. Admission requirements

To be admitted as a regular student in the PhD (Biochemistry) 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).
- Demonstrate good knowledge of French and English (learn more).
- Provide two letters of recommendation and a curriculum vitae.
- For the Cellular Dynamics of Macromolecular Complexes limited-enrolment option, priority will be given to students whose supervisors are part of the group of researchers who are working on this specific research problem.

#### 1.1 Admission requirements – Entry to PhD from MSc

- Have an MSc (Biochemistry), an MSc in a relevant discipline or an equivalent degree, 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.

#### 1.2 Admission requirements – Direct entry to PhD from MSc without dissertation

- Be enrolled in the MSc program and have finished all compulsory MSc courses.
- Have obtained a grade-point average at the graduate level of at least 3.4 out of 4.3.

#### 1.3 Admission requirements – Direct entry to PhD from BSc

- Have a BSc (Biochemistry), a BSc in a relevant discipline, an MD, or an equivalent degree.

- Have obtained a grade-point average at the undergraduate level of at least 3.6 out of 4.3.
- Have research experience.

## Program structure (3-465-1-0)

The doctorate program consists of 90 credits. There are six options:

- Flexible Stream (Segment 70)
- Molecular Genetics (Segment 71)
- Structural Biology (Segment 72)
- Human Genomics (Segment 73)
- In Silico Biochemistry (Segment 74)
- Cellular Dynamics of Macromolecular Complexes (Segment 75)

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

Students are required to take seminar courses throughout the program.

### Entry to PhD from MSc and direct entry to PhD from MSc without dissertation.

This program consists of 4 mandatory course credits and 86 credits for research and a thesis. It also includes additional courses depending on candidates' needs.

### Direct entry to PhD from BSc.

This program consists of 4 mandatory course credits and 86 credits for research and a thesis. Students must complete all master's-level courses that relate to their chosen option for the PhD program.

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

## SEGMENT 70 FLEXIBLE STREAM OPTION

All credits in this option are mandatory. Out of the 90 credits, 86 are for research and a thesis.

### Block 70A

Mandatory - 4 credits

COURSE	TITLE	CRSC	COURSE	TITLE	CRSC
BCM 70511	Advanced Scientific Communication 1.1	0	BCM 70521	Advanced Scientific Communication 2.1	0
BCM 70512	Advanced Scientific Communication 1.2	2	BCM 70522	Advanced Scientific Communication 2.2	2

### Block 70B Research and thesis

Mandatory - 86 credits

COURSE	TITLE	CRSC
BCM 7000	PhD Comprehensive Examination	0
BCM 7290	Thesis	86

## SEGMENT 71 SYSTEMS BIOLOGY OPTION

This option consists of 1 mandatory course credit, 3 optional course credits and 86 credits for research and a thesis.

### Block 71A

Mandatory - 4 credits

COURSE	TITLE	CRSC	COURSE	TITLE	CRSC
BCM 70511	Advanced Scientific Communication 1.1	0	BCM 70521	Advanced Scientific Communication 2.1	0
BCM 70512	Advanced Scientific Communication 1.2	2	BCM 70522	Advanced Scientific Communication 2.2	2

### Block 71B Research and Thesis

Mandatory - 86 credits

COURSE	TITLE	CRSC
BCM 7000	PhD Comprehensive Examination	0
BCM 7920	Thesis	86

## SEGMENT 73 HUMAN GENOMICS OPTION

All credits in this option are mandatory. Out of the 90 credits, 86 are for research and a thesis.

**Block 73A**

Mandatory – 4 credits

COURSE	TITLE	CRSC	COURSE	TITLE	CRSC
BCM 70511	Advanced Scientific Communication 1.1	0	BCM 70521	Advanced Scientific Communication 2.1	0
BCM 70512	Advanced Scientific Communication 1.2	2	BCM 70522	Advanced Scientific Communication 2.2	2

**Block 73B Research and Thesis**

Mandatory – 86 credits

COURSE	TITLE	CRSC
BCM 7000	PhD Comprehensive Examination	0
BCM 7920	Thesis	86

**SEGMENT 74 IN SILICO BIOCHEMISTRY OPTION**

All credits in this option are mandatory. Out of the 90 credits, 86 are for research and a thesis.

**Block 74A**

Mandatory – 4 credits

COURSE	TITLE	CRSC	COURSE	TITLE	CRSC
BCM 70511	Advanced Scientific Communication 1.1	0	BCM 70521	Advanced Scientific Communication 2.1	0
BCM 70512	Advanced Scientific Communication 1.2	2	BCM 70522	Advanced Scientific Communication 2.2	2

**Block 74B Research and Thesis**

Mandatory – 86 credits

COURSE	TITLE	CRSC
BCM 7000	PhD Comprehensive Examination	0
BCM 7920	Thesis	86

**SEGMENT 75 CELLULAR DYNAMICS OF MACROMOLECULAR COMPLEXES**

All credits in this option are mandatory. Out of the 90 credits, 86 are for research and a thesis.

**Block 75A**

Mandatory – 4 credits

COURSE	TITLE	CRSC	COURSE	TITLE	CRSC
BCM 70511	Advanced Scientific Communication 1.1	0	BCM 70521	Advanced Scientific Communication 2.1	0
BCM 70512	Advanced Scientific Communication 1.2	2	BCM 70522	Advanced Scientific Communication 2.2	2

**Block 75B Research and Thesis**

Mandatory – 86 credits

COURSE	TITLE	CRSC
BCM 7000	PhD Comprehensive Examination	0
BCM 7920	Thesis	86

## Research expertise at a glance

Consult our list of research centres and chairs : <https://biochimie.umontreal.ca/en/research/research-activities/>

Find out more : <https://biochimie.umontreal.ca/en/research/research-activities/>

## Professors

Consult the list of the department's faculty members and their specializations.

## Directory of theses and dissertations

## Research news