

# DOCTOR OF PHILOSOPHY BIOSCIENCE AND POLICY (BIOL)

Graduate Program Chair: Craig Willis

**DEGREE/PROGRAM OFFERED:** Doctor of Philosophy (PhD)

## Introduction

The Doctor of Philosophy in Bioscience and Policy (DPBP) program is focused on training students to: 1) Conduct independent, original research that advances scientific knowledge; 2) Master technical aspects of current methods in Bioscience; 3) Place research in the broader applied context of society and understand potential policy applications of their work; and 4) Communicate effectively with scientists, policy makers, and the public at large.

## Admission (Deadline February 1)

### *Admission Requirements to the PhD program for MSc Degree Holders*

Applicants will be considered on a case-by-case basis. Applicants must meet the following minimum requirements prior to admission: 1) Master of Science degree, or its academic equivalent, in the discipline of interest or in a closely related discipline from a recognized degree-granting university; 2) Evidence of scholarly competence demonstrated by a cumulative grade-point average of 3.5 on a 4.5 grade-point scale with no grade less than B on all graded master's-level courses; 3) The proposed research work of the applicant must complement the supervisor's research program; 4) Applicants must meet The University of Winnipeg English Language Proficiency (ELP) Requirement for Graduate Students.

Applications are available online at the Faculty of Graduate Studies website. Before applying, prospective students should contact and secure a research supervisor from the Department of Biology or a supervisor from another department conducting research relevant to Bioscience. For example, faculty members from Chemistry, Physics, Environmental Studies and Science, Kinesiology and Applied Health, and Geography have all supervised students in the program. A current list of potential supervisors is available on the [Graduate Degrees in Bioscience webpage](#) although other faculty members from the departments listed above may be accepting students. Further inquiries should be emailed to the [Bioscience Graduate Program Chair](#).

### *Transfer from the Bioscience MSc to the PhD in Bioscience and Policy*

Students already registered in the first year of The University of Winnipeg MSc in Bioscience, Technology and Public Policy program who have demonstrated superior academic performance may apply to transfer to the PhD in Bioscience and Policy. An application to transfer must be approved by the Faculty Supervisor, the students' Supervisory Committee and the Graduate Program Chair.

## REQUIREMENTS FOR A PhD IN BIOSCIENCE AND POLICY

Students enrol in the DPBP program for a minimum of three and no more than seven years, and must take a minimum of 12 credit hours of courses. To graduate from the program, a major research project culminating in a PhD thesis must be completed and successfully defended following the procedures for PhD Thesis Defenses defined by the Faculty of Graduate Studies. Each PhD student must have a supervisor who is a member of the Faculty of Graduate Studies. The supervisor provides direction to the student on course selection, directs research, and supervises the thesis work. The student must also have a Thesis Supervisory Committee including the supervisor and at least two other faculty members to help guide and review thesis research. Students also complete a two-part Candidacy Exam (GBIO 9201 and 9202) during the first two years of their program.

## Courses:

Course work includes three elements: core Bioscience courses, courses in Bioscience & Technology, and Policy and Communications courses that will help students place scientific research in the broader context of society.

Students must complete 12 credit hours from a combination of required courses and electives selected in consultation with the Advisory Committee and Supervisor. With the exception of Seminars in Biology, and subject to the approval of the Bioscience Graduate Program Chair and the Supervisor, students are allowed to substitute up to three credit hours with a course taken from a different institution.

**Required Courses at the 9000 (PhD) level:**

GBIO 9111 (0) – Bioscience PhD Thesis; continuous enrolment  
GBIO 9101 (1) – Seminars in Biology (PhD) Year 1  
GBIO 9102 (1) – Seminars in Biology (PhD) Year 2  
GBIO 9103 (1) – Seminars in Biology (PhD) Year 3  
GBIO 9201 (0) – Bioscience PhD Candidacy Exam Year 1  
GBIO 9202 (0) – Bioscience PhD Candidacy Exam Year 2

**Required Course at the 7000 (graduate) level**

GBIO 7103 (3) – Bioscience and Policy (PhD)

**Elective Courses at the 7000 (graduate) level***Core Bioscience Courses (Minimum 3 credits)*

GBIO 7402 (3) – Current Topics in Ecology  
GBIO 7304 (3) – Current Topics in Genetics & Genomics  
GBIO 7100 (3) – Directed Studies in Life Sciences  
GIS 7024 (3) – Biocultural Conservation

*Bioscience and Technology Courses (Minimum 3 credits)*

GBIO 7201 (3) – Molecular Biotechnology  
GBIO 7102 (3) – Directed Studies in Biosciences and Technology  
GBIO 7104 (3) – Analysis of Biological Data  
GESC 7612 (3) – Geographic Information Analysis

In consultation with the Thesis Supervisor, students may substitute courses for GBIO 7100 and/or GBIO 7102 from the list of courses, offered by the Departments of Environmental Studies & Sciences or Geography, below:

GESC 7102 (3) – Interdisciplinary Seminars in Environmental and Social Change  
GESC 7103 (3) – Interdisciplinary Research  
GESC 7511 (3) – Environmental Studies and Human Geography: Approaches and Methods  
GESC 7521 (3) – Topics in Environmental Studies and Human Geography  
GESC 7531 (3) – Directed Studies in Environmental Studies and Human Geography  
GESC 7611 (3) – Environmental Science and Physical Geography: Approaches and Methods  
GESC 7621 (3) – Topics in Environmental Science and Physical Geography  
GESC 7631 (3) – Directed Studies in Environmental Science and Physical Geography

Students may also substitute up to 3 credit hours of approved courses for GBIO 7100 or GBIO 7102 from other institutions via the Western Dean's Agreement.

Students who have completed The University of Winnipeg MSc in Bioscience, Technology and Public Policy ("Bioscience MSc") before registering in the DPBP Program will already have taken GBIO 7111, GBIO 7101 and GBIO 7103 at the MSc level. They will enrol in GBIO 9111 (Thesis Course) to indicate that they are conducting PhD thesis research, and in GBIO 9101 in their first year (Seminars in Biology (PhD) Year 1) and 9102 and 9103 in Years 2 and 3 as these seminar courses will include additional work for PhD students. In consultation with the Supervisory Committee and the Graduate Program Chair, they will be permitted to select a relevant alternative course to GBIO 7103 that also has a significant bioscience and policy component (e.g., GIS 7024, GESC 7511). For their two remaining elective courses they will choose courses from the list above which they have not already taken as MSc students.