

Simon Fraser University Maggie Benston Centre 1100 8888 University Drive Burnaby, BC V5A 1S6 TEL 778.782.3042 FAX 778.782.3080 gradstudies@sfu.ca www.sfu.ca/grad

MEMORANDUM

ATTENTION

Senate

DATE

April 27, 2017

FROM

Wade Parkhouse, Chair of Senate

Graduate Studies Committee (SGSC)

RE:

Program Changes

Wallouse

#### For information:

Acting under delegated authority at its meeting of April 3, 2017 SGSC approved the following program changes effective **Fall 2017**:

Faculty of Communication, Art and Technology

1) Comparative Media Arts MA (effective Spring 2018)

### Faculty of Science

- 2) Master of Pest Management
- 3) Master of Environmental Toxicology
- 4) Biological Sciences MSc
- 5) Biological Sciences PhD



#### FACULTY OF COMMUNICATION, ART AND TECHNOLOGY Office of the Dean

Harbour Center 7475 515 West Hastings Street, TEL 778.782.8790 FAX 778.782.8789 www.fcat.sfu.ca

Vancouver, BC Canada V6B 5K3

MEMORANDUM

ATTENTION

Wade Parkhouse, Dean of Graduate Studies

DATE March 3, 2017

FROM

Zoë Druick, FCAT Associate Dean & Chair,

**PAGES** 

FCAT-Graduate Studies Committee

RE:

SGSC Agenda Item - SCA Calendar Change

On behalf of the Faculty of Communication, Art and Technology, I am forwarding for SGSC's consideration the following calendar update from SCA. These changes follow on from course changes that were approved by the FCAT GSC meeting on February 27, 2017.

1) Change to the calendar entry to the MA in Comparative Media Arts (FPA 829) calendar listing to clarify that the two extended essays are taken as a single course.

Thank you for your attention to this matter.

Zoë Druick

Associate Dean, FCAT

Chair, FCAT Graduate Studies Committee

cc: Arne Eigenfeldt, Graduate Program Chair, SCA

/encl

ZD/ld



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February 14, 2017

Zoë Druick Associate Dean of Graduate Studies and Research Faculty of Communication, Art and Technology

Dear Zoë

Following the Degree Audit Project, it was recommended that we make a slight change to our calendar entry to the MA in Comparative Media Arts Calendar listing. The change is meant to clarify that the two extended essays are taken as a single course (FPA 829).

Yours truly,

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Arne Eigenfeldt Graduate Program Chair Professor School for the Contemporary Arts arne\_e@sfu.ca

## Calendar Entry Change for MA in Comparative Media Arts Program (SCA)

## Summary of change:

Slight change in wording regarding Extended Essays

## Rationale for change:

Clarification following Degree Audit

## Effective term and year:

Spring 2018

Will this change impact current students? If yes, what is the plan for current students? No

FROM	ТО
Students complete a minimum of 30 units,	Students complete a minimum of 30 units,
including:	including:
CA 821 - Research Methods in Comparative	CA 821 - Research Methods in Comparative
Media Arts (4)	Media Arts (4)
CA 822 - Research Colloquium in Comparative	CA 822 - Research Colloquium in
Media Arts (4)	Comparative Media Arts (4)
CA 829 - Extended Essays in Comparative	
Media Arts (6)	at least three of:
and at least three of	CA 823 - New Approaches in Visual Art and
	Culture (4)
CA 823 - New Approaches in Visual Art and	CA 824 - New Approaches in Moving-Image
Culture (4)	Studies (4)
CA 824 - New Approaches in Moving-Image	CA 825 - New Approaches in Digital Art
Studies (4)	Studies (4)
CA 825 - New Approaches in Digital Art Studies	CA 826 - New Approaches in Performance Studies (4)
(4)	CA 827 - Practicum in Comparative Media
CA 826 - New Approaches in Performance	Arts (4)
Studies (4) CA 827 - Practicum in Comparative Media Arts	Alis (T)
(4)	and two extended essays:
(ד)	CA 829 - Extended Essays in Comparative
	Media Arts (6)
	Micula Al to (0)



MEMO

Faculty of Science

ATTENTION Wade Parkhouse, Dean, Graduate Studies

FROM Peter Ruben, Associate Dean, Faculty of Science

RE Course changes, calendar changes, and new courses – Biological Sciences

DATE 31 March 2017

TIME 4:44 PM

The graduate program in the Department of Biological Sciences seeks a number of changes to their graduate program, as follows:

New course: BISC 891 – PhD Graduate Candidacy Exam. This is part of the new degree audit initiative.

Course change: BISC 821 — Cell and Molecular Biology Colloquium

Course deletions: BISC 829 — Conservation Ecology; BISC 822 - Cell and Molecular Biology Colloquium; BISC 823 - Cell and Molecular Biology Colloquium

**Calendar entry changes:** Master of Pest Management; Master of Environmental Toxicology; Master of Science; PhD.

Please see the attached information for details.

I have approved these changes on behalf of the FGSC in the Faculty of Science on designated authority and forward them to SGSC for consideration.

P. Ruben

### SIMON FRASER UNIVERSITY

## **DEPARTMENT OF BIOLOGICAL SCIENCES MEMORANDUM**

To:

Peter Reuben

Faculty of Science

From: Margo Moore

Chair, DGSC

Subject: Courses and minor calendar

revisions

Date: 29 November 2016

The following changes to courses and calendar entries have been approved by the Department of Biological Sciences and are now forwarded to the Faculty of Science Graduate Curriculum Committee for review and approval.

#### Course changes

New course

BISC 891 - PhD Graduate Candidacy Exam

### Course change

BISC 821 - Cell and Molecular Biology Colloquium

#### Course deletion

BISC 829 - Conservation Ecology

BISC 822 - Cell and Molecular Biology Colloquium

BISC 823 - Cell and Molecular Biology Colloquium

#### Calendar entry changes

#### Master of Pest Management

- Added program description, minimum units for program, and expected program. length
- Removed information already included in GGRs
- No changes to the program requirements

#### Master of Environmental Toxicology

- Revised program description
- Added minimum units for program, program length, and the requirement that the project needs to be submitted to library
- Removed information already included in GGRs
- No changes to the program requirements

#### Master of Science

Added program description and total units of program

- Removed information already included in GGRs and application information regarding documents and deadlines
- No changes to the program requirements

## <u>PhD</u>

- · Added program description and minimum units of program
- Added BISC 891 to formally recognize the required candidacy exam that already exists for this program
- Removed information already included in GGRs and application information regarding documents and deadlines
- No changes to the program requirements



STUDENT SERVICES
Summer Calendar

#### Please note:

To view the Spring 2017 Academic Calendar go to http://www.sfu.ca/students/calendar/2017/spring.html

Department of Biological Sciences Simon Fraser University Calendar | Summer 2017

# **Pest Management**

MASTER OF PEST MANAGEMENT

## Program Requirements

The research-based master of pest management (MPM) program is distinct from an MSc program because of its strongly applied context and its interaction with practioners and producers.

The student completes all of

BISC 601 - Agriculture, Horticulture and Urban Pest Management (2)

BISC 602 - Forest Pest Management (2)

BISC 844 - Biological Controls (3)

BISC 847 - Pest Management in Practice (3)

and two of

BISC 838 - Population Dynamics and Demography (3)

BISC 841 - Plant diseases and plant biotechnology (3)

BISC 846 - Insecticide Chemistry and Toxicology (3)

BISC 852 - Ecological and Molecular Interactions between Insect Vectors and Parasites (3)

BISC 884 - Special Topics in Pest Ecology and Management (3)

One of these courses can be substituted by an 800 division elective (three units) or

STAT 650 - Quantitative Analysis in Resource Management and Field Biology (5)

## **Thesis Requirements**

The program requires a thesis, which is based on original research with relevance to pest management. To do this, the student enrols in

BISC 849 - Master of Pest Management Thesis (18)

and continues enrolling in that course until the thesis is finished.

The thesis will be defended publicly. The examining committee is composed of a chair (non-voting), all members of the student's supervisory committee, and an examiner who is a member of faculty at the university, or a person otherwise suitably qualified, who is not a member of the student's supervisory committee.

#### **Supervisory Committee**

A senior supervisor is appointed prior to admission.

The supervisory committee consists of, at minimum, the senior supervisor and one additional regular biology faculty member. In exceptional cases, a faculty member from another Simon Fraser University department may be substituted for the Department of Biological Sciences faculty member. Additional supervisory committee members from other institutions may be appointed upon submission of research credentials and approval by the departmental graduate studies committee.

### **Annual Progress Report**

Students submit a report of their progress every year, and will maintain satisfactory progress toward degree completion to remain in the program. Students receive an annual report form from the graduate secretary every year in the term in which they started, and are expected to complete and return it within six weeks. They will have a committee meeting each year, and a brief summary of this meeting will be included in the report. Also included should be a description of the work/courses completed since the last report (or since starting their program if this is the first time), student progress evaluation forms by each of the supervisory committee members, and a copy of the student's unofficial transcript.

# Academic Requirements within the Graduate General Regulations

All graduate students must satisfy the academic requirements that are specified in the Graduate General Regulations, as well as the specific requirements for the program in which they are enrolled.

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## **Pest Management**

MASTER OF PEST MANAGEMENT

## **Description of Program**

Pest problems offer opportunities for research on the biological processes involving organisms that cause damage to crops and structures or threaten human health. The master of pest management (MPM) program at SFU allows students to access these opportunities in the management and research of pests and furthermore, directly apply this knowledge. This research-based master of pest management (MPM) program is distinct from an MSc program because of its strongly applied context and its interaction with practitioners and producers.

## Admission Requirements

Applicants must satisfy the University admission requirements as stated in Graduate General Regulations 1.3 in the SFU Calendar.

## **Program Requirements**

This program consists of required courses, elective courses, and a thesis for a minimum of 34 units.

Students must complete all of

BISC 601 - Agriculture, Horticulture and Urban Pest Management (2)

BISC 602 - Forest Pest Management (2)

BISC 844 - Biological Controls (3)

BISC 847 - Pest Management in Practice (3)

#### and two of \*

BISC 816 - Biology and Management of Insects (3)

BISC 838 - Population Dynamics and Demography (3)

BISC 841 - Plant diseases and plant biotechnology (3)

BISC 846 - Insecticide Chemistry and Toxicology (3)

BISC 852 - Ecological and Molecular Interactions between Insect Vectors and Parasites (3)

BISC 884 - Special Topics in Pest Ecology and Management (3)

#### and a thesis

BISC 849 - Master of Pest Management Thesis (18)

The thesis is based on original research with relevance to pest management. See Graduate General Regulation 1.10 for more information on the examination of the thesis.

#### \*One of these courses can be substituted by

STAT 650 - Quantitative Analysis in Resource Management and Field Biology (5)

Alternatively, an 800-level elective course (three units) may be substituted, subject to approval by the MPM Director.

## **Program Length**

Students are expected to complete the program requirements in nine terms.

### Other Information

#### **Supervisory Committee**

A senior supervisor is appointed prior to admission. The supervisory committee consists of, at minimum, the senior supervisor and one additional regular biology faculty member. In exceptional cases, a faculty member from another Simon Fraser University department may be substituted for the Department of Biological Sciences faculty member. Additional supervisory committee members from other institutions may be appointed upon submission of research credentials and approval by the departmental graduate studies committee.

#### **Annual Progress Report**

Students submit a report of their progress every year, and will maintain satisfactory progress toward degree completion to remain in the program. Students receive an annual report form from the graduate secretary every year in the term in which they started, and are expected to complete and return it within six weeks. They will have a committee meeting each year, and a brief summary of this meeting will be included in the report. Also included should be a description of the work/courses completed since the last report (or since starting their program if this is the first time), student progress evaluation forms by each of the supervisory committee members, and a copy of the student's unofficial transcript.

## Academic Requirements within the Graduate General Regulations

All graduate students must satisfy the academic requirements that are specified in the Graduate General Regulations, as well as the specific requirements for the program in which they are enrolled.



STUDENT SERVICES
Summer Calendar

#### Please note:

To view the Spring 2017 Academic Calendar go to http://www.sfu.ca/students/calendar/2017/spring.html

Department of Biological Sciences Simon Fraser University Calendar | Summer 2017

# **Environmental Toxicology**

MASTER OF ENVIRONMENTAL TOXICOLOGY

This master of environmental toxicology (MET) program may be completed on a full or part-time basis. The program consists of a minimum of 32 graduate units of course work, plus BISC 656-6, Master of Environmental Toxicology Project.

## Admission Requirements

Before entering the program, the following courses or equivalents should be completed. These prerequisites may be waived by the departmental graduate studies committee under special circumstances, on recommendation from the director.

BISC 313-3 Environmental Toxicology II CHEM 282-3 Organic Chemistry II

MBB 231-3 Cellular Biology and Biochemistry

## Program Requirements

The student chooses a senior supervisor after program admission, with program director consultation.

#### Students complete

BISC 650 - Environmental Risk Assessment (3)

BISC 651 - Toxicity Tests I: Ecological Effects Based Tests (3)

BISC 652 - ET Tests II: Mammalian Toxicity Tests (3)

BISC 654 - Food and Drug Toxicology (3)

BISC 655 - Environmental Toxicology Seminar (3)

BISC 656 - Master of Environmental Toxicology Project (6)

BISC 855 - Biochemical Toxicology (3)

STAT 650 - Quantitative Analysis in Resource Management and Field Biology (5)

#### and one of

BISC 854 - Ecotoxicology (3)

EASC 613 - Groundwater Modelling (3)

REM 610 - Applied Environmental Toxicology and Environmental Management of Contaminants (5)

and six units chosen from the following

BISC 839 - Industrial Microbiology (3)

BISC 846 - Insecticide Chemistry and Toxicology (3)

BISC 883 - Special Topics in Environmental Toxicology (3)

BPK 851 - Recent Advances in Experimental Carcinogenesis (3)

REM 612 - Simulation Modelling in Natural Resource Management (5)

#### **Supervisory Committee**

A supervisory committee is formed by the beginning of the fourth term of full time equivalent enrolment. The supervisory committee consists of, at minimum, the senior supervisor and one additional regular biology faculty member. In exceptional cases, a faculty member from another Simon Fraser University department may be substituted for the Department of Biological Sciences faculty member. Additional supervisory committee members from other institutions may be appointed upon submission of research credentials and approval by the departmental graduate studies committee.

## Project

Students must also complete a project, supervised by the senior supervisor, while enrolled in

BISC 656 - Master of Environmental Toxicology Project (6)

The project will concern a specific aspect of environmental toxicology which may be based on original field, laboratory or library research.

### **Annual Progress Report**

Students must submit a report of their progress every year, and must maintain satisfactory progress toward degree completion to remain in the program. Students receive an annual report form from the graduate program assistant every year in the term in which they started, and are expected to complete and return it within six weeks. They will have a committee meeting each year, and a brief summary of this meeting will be included in the report. Also included should be a description of the work/courses completed since the last report (or since starting their program if this is the first time), student progress evaluation forms by each of the supervisory committee members, and a copy of the student's unofficial transcript.

## Oral Examination

In addition to submission of a report at project completion, the student prepares for an oral exam according to Graduate General Regulations 1.9 and will be examined according to Graduate General Regulations 1.10.

# Academic Requirements within the Graduate General Regulations

All graduate students must satisfy the academic requirements that are specified in the Graduate General Regulations, as well as the specific requirements for the program in which they are enrolled.

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## **Environmental Toxicology**

MASTER OF ENVIRONMENTAL TOXICOLOGY

## **Description of Program**

Environmental toxicology is a rapidly expanding area of environmental science concerned with understanding the adverse effects of chemicals, physical, and biological agents on living organisms. A master's degree in environmental toxicology can be challenging, stimulating, financially rewarding, and lead to an exciting professional career that contributes to the welfare of humans the environment.

## Admission Requirements

Applicants must satisfy the University admission requirements as stated in Graduate General Regulations 1.3 in the SFU Calendar. Before entering the program, the following courses or equivalents should be completed. These prerequisites may be waived by the departmental graduate studies committee under special circumstances, on recommendation from the director:

- BISC 313-3 Environmental Toxicology II
- CHEM 282-3 Organic Chemistry II
- MBB 231-3 Cellular Biology and Biochemistry

BISC 656 - Master of Environmental Toxicology Project (6)

## **Program Requirements**

and a project

This program consists of required courses, elective courses, and a thesis for a minimum of 38 units.

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Students must complete all of
BISC 650 - Environmental Risk Assessment (3)
BISC 651 - Toxicity Tests I: Ecological Effects Based Tests (3)
BISC 652 - ET Tests II: Mammalian Toxicity Tests (3)
BISC 654 - Food and Drug Toxicology (3)
BISC 655 - Environmental Toxicology Seminar (3)
BISC 855 - Biochemical Toxicology (3)
STAT 650 - Quantitative Analysis in Resource Management and Field Biology (5)
and one of
BISC 854 - Ecotoxicology (3)
EASC 613 - Groundwater Modelling (3)
REM 610 - Applied Environmental Toxicology and Environmental Management of Contaminants (5)
and six units from the following courses
BISC 839 - Industrial Microbiology (3)
BISC 846 - Insecticide Chemistry and Toxicology (3)
BISC 883 - Special Topics in Environmental Toxicology (3)
BPK 851 - Recent Advances in Experimental Carcinogenesis (3)
REM 612 - Simulation Modelling in Natural Resource Management (5)
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The project is supervised by a senior supervisor and will concern a specific aspect of environmental toxicology which may be based on original field, laboratory, or library research. In addition to submission of a report at project completion, the student prepares for an oral exam according to Graduate General Regulations 1.9 and will be examined according to Graduate General Regulations 1.10. The project must be submitted to the library upon successful completion.

## Program Length

Students are expected to complete the program requirements in nine terms.

## Other Information

#### **Supervisory Committee**

The student chooses a senior supervisor after admission to the program, in consultation with the program director. A supervisory committee is formed by the beginning of the fourth term of full time equivalent enrolment. The supervisory committee consists of, at minimum, the senior supervisor and one additional regular biology faculty member. In exceptional cases, a faculty member from another Simon Fraser University department may be substituted for the Department of Biological Sciences faculty member. Additional supervisory committee members from other institutions may be appointed upon submission of research credentials and approval by the departmental graduate studies committee.

#### **Annual Progress Report**

Students submit a report of their progress every year, and will maintain satisfactory progress toward degree completion to remain in the program. Students receive an annual report form from the graduate secretary every year in the term in which they started, and are expected to complete and return it within six weeks. They will have a committee meeting each year, and a brief summary of this meeting will be included in the report. Also included should be a description of the work/courses completed since the last report (or since starting their program if this is the first time), student progress evaluation forms by each of the supervisory committee members, and a copy of the student's unofficial transcript.

# Academic Requirements within the Graduate General Regulations

All graduate students must satisfy the academic requirements that are specified in the Graduate General Regulations, as well as the specific requirements for the program in which they are enrolled.



STUDENT SERVICES
Summer Calendar

#### Please note:

To view the Spring 2017 Academic Calendar go to http://www.sfu.ca/students/calendar/2017/spring.html

Department of Biological Sciences | Faculty of Science Simon Fraser University Calendar | Summer 2017

# **Biological Sciences**

MASTER OF SCIENCE

## Admission Requirements

Prior to applying for admission, contact faculty members directly to discuss research interests, programs, and to confirm the availability of a position within their group as well as possible financial support.

In addition to the completed admission form, official copies of all academic transcripts in envelopes sealed and endorsed by the issuing institution is also required. International applicants will provide both the original language transcripts and degree certificates, and certified English translations. Also required is an up-to-date curriculum vitae, and any evidence of research accomplishment (e.g. reprints, manuscripts, thesis abstracts, etc.). Please give careful attention to indicating current research interests on the application. Applicants will request a confidential evaluation and letters of reference from three referees who are familiar and competent to judge your academic potential.

New students may begin their programs at the start of any term. Deadlines for receipt of completed applications, with required supporting documents, by the Departmental Graduate Studies Committee are: 1 October (for spring term), 1 February (for summer term) and 1 June (for fall term).

In some circumstances, a student who does not meet the minimum requirements for admission may be admitted as a qualifying student when it is expected that the admission requirements can be met by satisfactorily completing a number of senior undergraduate courses. Successful students may then apply for regular admission to graduate studies in the usual way.

### **English Language Competence**

English is the language of instruction and communication at the University. Accordingly, an applicant whose primary language is not English must demonstrate command of English sufficient to pursue graduate studies in the chosen field. Please refer to the Graduate General Regulations (1.3.12 English Language Competence) for minimum language requirements and further information.

## Program Requirements

This master of science (MSc) program requires a thesis based on original research.

Applicants will have completed a bachelor's degree at a recognized university with a graduation average of B or better (3.0 cumulative grade point average on all post-secondary course work), have a research supervisor prior to admission, and provide evidence of ability to undertake advanced studies.

Candidates successfully complete a minimum of 12 units of graduate course work and will submit a thesis based on original research.

The thesis will be defended publicly. The examining committee will be composed of a chair (non-voting), all members of the student's supervisory committee, and a Simon Fraser University faculty member, or a person otherwise suitably qualified who is not a member of the student's supervisory committee.

The program is expected to be completed in less than three years.

#### **Supervisory Committee**

A senior supervisor is appointed prior to admission.

The supervisory committee consists of at minimum the senior supervisor and one additional regular biology faculty member. In exceptional cases, a faculty member from another Simon Fraser University department may be substituted for the Department of Biological Sciences faculty member. Additional supervisory committee members from other institutions may be appointed upon submission of research credentials and approval by the departmental graduate studies committee.

### **Annual Progress Report**

Students submit a report of their progress every year, and will maintain satisfactory progress toward degree completion to remain in the program. Students receive an annual report form from the program assistant every year in the term in which they started, and they are expected to complete and return it within six weeks. They must have a committee meeting each year, and a brief summary of this meeting and a table of milestones is included in the report. Also included will be a description of the work completed since the last report (or since starting the program if this is the first time), student progress evaluation forms by each of the supervisory committee members, and a copy of the student's unofficial transcript.

# Academic Requirements within the Graduate General Regulations

All graduate students must satisfy the academic requirements that are specified in the Graduate General Regulations, as well as the specific requirements for the program in which they are enrolled.

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## **Biological Sciences**

MASTER OF SCIENCE

## **Description of Program**

The Master of Science program in the Department of Biological Sciences at Simon Fraser University entails rigorous academic training and a research project culminating in a thesis. Our research strength is broadly organized into three themes: Cellular, Developmental, & Molecular Biology; Ecology, Evolution and Conservation Biology; and Applied Biology. Because applicants must identify a faculty member who will supervise them, all applicants must contact potential supervisors directly. To learn about areas of faculty research, click here.

Further information about the department and how to apply can be found on our website.

## Admission Requirements

Applicants must satisfy the University admission requirements as stated in Graduate General Regulations 1.3 in the SFU Calendar, have a research supervisor confirmed, and provide evidence of ability to undertake advanced studies. Prior to applying for admission, applicants are required to contact faculty members directly to discuss research interests, programs, and to confirm the availability of a position within their group as well as possible financial support.

## **Program Requirements**

This program consists of courses and a thesis, based on original research, for a minimum of 30 units.

Students must complete

12 units of graduate courses including BISC 800 - Skills for the Successful Scientist (1)

and a thesis BISC 898 - MSc Thesis (18)

See Graduate General Regulation 1.10 for more information on the examination of the thesis.

## **Program Length**

Students are expected to complete the program requirements in less than nine terms.

## Other Information

#### **Supervisory Committee**

A senior supervisor is appointed prior to admission. The supervisory committee consists of, at minimum, the senior supervisor and one additional regular biology faculty member. In exceptional cases, a faculty member from another Simon Fraser University department may be substituted for the Department of Biological Sciences faculty member. Additional supervisory committee members from other institutions may be appointed upon submission of research credentials and approval by the departmental graduate studies committee.

#### **Annual Progress Report**

Students submit a report of their progress every year, and must maintain satisfactory progress toward degree completion to remain in the program. Students receive an annual report form from the graduate secretary every year in the term in which they started, and are expected to complete and return it within six weeks. They will have a committee meeting each year, and a brief summary of this meeting will be included in the report. Also included should be a description of the work/courses completed since the last report (or since starting their program if this is the first time), student progress evaluation forms by each of the supervisory committee members, and a copy of the student's unofficial transcript.

## Academic Requirements within the Graduate General Regulations

All graduate students must satisfy the academic requirements that are specified in the Graduate General Regulations, as well as the specific requirements for the program in which they are enrolled.



STUDENT SERVICES
Summer Calendar

#### Please note:

To view the Spring 2017 Academic Calendar go to http://www.sfu.ca/students/calendar/2017/spring.html

Department of Biological Sciences | Faculty of Science Simon Fraser University Calendar | Summer 2017

# **Biological Sciences**

DOCTOR OF PHILOSOPHY

## Admission Requirements

Prior to applying for admission, students should contact faculty members directly to discuss their research interests, programs and to confirm the availability of a position within their group as well as their ability to provide financial support.

In addition to the completed admission form, official copies of all academic transcripts in envelopes sealed and endorsed by the issuing institution are required. International applicants must provide both the original language transcripts and degree certificates, and certified English translations. Also an up-to-date curriculum vitae, and any evidence of research accomplishment (e.g. reprints, manuscripts, thesis abstracts, etc.) is required. Please give careful attention to indicating current research interests on the application. Applicants will request a confidential evaluation and letters of reference from three referees who are familiar and competent to judge the applicant's academic potential.

New students may begin their programs at the start of any term. Deadlines for receipt of completed applications, with required supporting documents, by the departmental graduate studies committee are: 1 October (for spring term), 1 February (for summer term) and 1 June (for fall term).

Applicants must either have: a 3.5 grade point average (GPA) in a bachelor's degree program and evidence of research ability or; have completed a master of science degree or its equivalent from a recognized university. All PhD students must have a research supervisor prior to admission.

Students already in the MSc, MPM, or MET program in the Department of Biological Sciences may transfer to the PhD program after meeting the following criteria:

at least two terms (and no more than six terms) in the Simon Fraser University master's program

completion of at least three-quarters of the required course work of their respective master's program, with a cumulative grade point average (CGPA) of 3.5 or better

letters of support from all members of the student's supervisory committee

evidence of scholarly accomplishments, such as submission of manuscripts for publication or presentations at national or international meetings

Please note that transfer is NOT automatic. The application for transfer is considered by the departmental graduate studies committee who will carefully review the quality of the proposal, the extent of tangible accomplishments to date, and the supervisory

committee's comments before approving a request to transfer. *It is recommended that the application to transfer be submitted no later than the end of the sixth term of the MSc program.* 

#### **English Language Competence**

English is the language of instruction and communication at the University. Accordingly, an applicant whose primary language is not English must demonstrate command of English sufficient to pursue graduate studies in the chosen field. Please refer to the Graduate General Regulations for minimum language requirements and further information.

## Program Requirements

This doctor of philosophy (PhD) program requires a thesis based on original research.

The program requires a minimum of two courses totalling not less than six units of course work beyond the master's degree. Of these, all must be graduate courses. Students accepted to the PhD program who have not completed a master's degree must complete 12 units of graduate course work beyond the baccalaureate. Of these, all must be graduate courses. It is at the discretion of the supervisory committee to ask a student to complete additional course work.

The student must pass an oral candidacy exam prior to the end of the fourth program term, or the second term after transfer from the MSc program. The exam concentrates on the student's research area, follows a written PhD research proposal submission, and is graded acceptable/unacceptable. Students with an unacceptable grade must pass a second exam within six months; a second unacceptable rating requires program withdrawal.

Candidates submit a thesis based on original research which is defended publicly.

The examining committee is composed of a chair (non-voting), all members of the student's supervisory committee, a member of faculty at the University, or a person otherwise suitably qualified, who is not a member of the student's supervisory committee, and an external examiner who is specifically qualified in the field of the thesis and is not a member of faculty at the University.

The PhD program is expected to be completed in less than five years.

#### **Supervisory Committee**

A senior supervisor is appointed prior to the student's admission.

The supervisory committee consists of, at minimum, the senior supervisor and one additional regular biology faculty member. In exceptional cases, a faculty member from another Simon Fraser University department may be substituted for the Department of Biological Sciences faculty member. Additional supervisory committee members from other institutions may be appointed upon submission of research credentials and approval by the departmental graduate studies committee.

#### **Annual Progress Report**

Students submit a report of their progress every year, and will maintain satisfactory progress toward degree completion to remain in the program. Students receive an annual report form from the graduate secretary every year in the term in which they started, and are expected to complete and return it within six weeks. They will have a committee meeting each year, and a brief summary of this meeting will be included in the report. Also included should be a description of the work completed since the last report (or since starting their program if this is the first time), student progress evaluation forms by each of the supervisory committee members, and a copy of the student's unofficial transcript.

Academic Requirements within the Graduate General Regulations



All graduate students must satisfy the academic requirements that are specified in the Graduate General Regulations, as well as the specific requirements for the program in which they are enrolled.

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## **Biological Sciences**

DOCTOR OF PHILOSOPHY

## **Description of Program**

The Doctor of Philosophy program in the Department of Biological Sciences at Simon Fraser University entails rigorous academic training and independent research culminating in a thesis leading to peer-reviewed publications. Our research strength is broadly organized into three themes: Cellular, Developmental, & Molecular Biology; Ecology, Evolution and Conservation Biology; and Applied Biology. Because applicants must identify a faculty member who will supervise them, all applicants must contact potential supervisors directly. To learn about areas of faculty research, click here.

Further information about the department and how to apply can be found on our website.

## Admission Requirements

Applicants must satisfy the University admission requirements as stated in Graduate General Regulations 1.3 in the SFU Calendar, have a research supervisor confirmed, and provide evidence of ability to undertake advanced studies. Prior to applying for admission, applicants are required to contact faculty members directly to discuss research interests, programs, and to confirm the availability of a position within their group as well as possible financial support.

Students already in the MSc, MPM, or MET program in the Department of Biological Sciences may transfer to the PhD program after meeting the following criteria:

- At least two terms completed (and no more than six terms) in the SFU master's program;
- Completion of at least three-quarters of the required course work of the respective master's program, with a cumulative grade point average (CGPA) of 3.5 or better;
- Letters of support from all members of the supervisory committee;
- Evidence of scholarly accomplishments, such as submission of manuscripts for publication or presentations at national or international meetings.

Please note that a transfer is NOT automatic. The application for transfer is considered by the departmental graduate studies committee who will carefully review the quality of the proposal, the extent of tangible accomplishments to date, and the student's supervisory committee's comments before approving a request to transfer. It is recommended that the application to transfer be submitted no later than the end of the sixth term of the MSc program.

## Program Requirements

This program consists of courses and a thesis for a minimum of 12 units. Students may be required to complete additional course work at the discretion of the supervisory committee. Students accepted to the PhD program who have not completed a master's degree, must complete an additional six units of graduate course work.

Students must complete

Six units of graduate courses

and a candidacy exam
BISC 892 PhD Graduate Candidacy Exam (0)

and a thesis BISC 899 - PhD Thesis (6)

The thesis is based on original research and is defended publicly. See Graduate General Regulation 1.10 for more information on the examination of the thesis.

#### **Oral Candidacy Exam**

The student must pass an oral candidacy exam prior to the end of the fourth program term, or the second term after transfer from the MSc program. The exam concentrates on the student's research area, follows a written PhD research proposal submission, and is graded satisfactory/unsatisfactory. Students with an unacceptable grade must pass a second exam within six months. Students who receive a second unsatisfactory rating will be withdrawn from the program.

## **Program Length**

Students are expected to complete the program requirements in less than five years.

#### Other Information

#### **Supervisory Committee**

A senior supervisor is appointed prior to admission. The supervisory committee consists of, at minimum, the senior supervisor and one additional regular biology faculty member. In exceptional cases, a faculty member from another Simon Fraser University department may be substituted for the Department of Biological Sciences faculty member. Additional supervisory committee members from other institutions may be appointed upon submission of research credentials and approval by the departmental graduate studies committee.

#### **Annual Progress Report**

Students submit a report of their progress every year, and will maintain satisfactory progress toward degree completion to remain in the program. Students receive an annual report form from the graduate secretary every year in the term in which they started, and are expected to complete and return it within six weeks. They will have a committee meeting each year, and a brief summary of this meeting will be included in the report. Also included should be a description of the work/courses completed since the last report (or since starting their program if this is the first time), student progress evaluation forms by each of the supervisory committee members, and a copy of the student's unofficial transcript.

## Academic Requirements within the Graduate General Regulations

All graduate students must satisfy the academic requirements that are specified in the Graduate General Regulations, as well as the specific requirements for the program in which they are enrolled.