



Office of Graduate Studies and Postdoctoral Fellows

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 www.sfu.ca/Dean-
 GradStudies

MEMORANDUM

ATTENTION Senate
 FROM Wade Parkhouse, Dean of Graduate
 Studies
 RE: Faculty of Science

DATE 5 June 2013
 No. GS2013.19

For information:

Acting under delegated authority at its meeting of 3 June 2013, SGSC approved the following curriculum revisions:

Effective Date is Spring 2014**Faculty of Science****[GS2013. 19]**a) Department of Biological Sciences**Master of Pest Management Program**

1. Program Requirements:
 - i) Add to requirements; remove from electives: BISC 844-3 Biological Controls
2. Electives:
 - i) Add to list of courses:
BISC 838-3 Population Dynamics and Demography (as per S.10-93)
 - ii) Delete from calendar entry (as per S.10-93)
BISC 817-3 Social Insects
BISC 843-3 Population Processes
 - iii) Delete from calendar entry and course catalogue:
BISC 842-3 Insect Development and Reproduction
BISC 851-3 Vertebrate Pests
 - iv) Add language re substitutions
3. Thesis Requirements:
 - i) Minor course change:
Increase units: BISC 849-18 MPM Thesis
 - ii) Revise wording re examining committee
4. Reinstate course (WD as per S.12-71)
 - i) BISC 841-3 Plant Diseases and Plant Biotechnology
5. Minor course changes:
 - i) Change title and description: BISC 841-3 Plant Diseases and Plant Biotechnology

- ii) Change description: BISC 844-3 Biological Controls
- iii) Change of title and description: BISC 852-3 Ecological and Molecular Interactions between Insect Vectors and Parasites

Master of Science Program

1. Increase units: BISC 898-18 MSc Thesis
- b) Department of Biomedical Physiology and Kinesiology
1. Cross list and change title: BPK 831-3 Current Topics Thermophysiology with KIN 420-3 Selected Topics in Kinesiology I
- c) Department of Mathematics
1. Remove Pre-requisites, Exclusions and Recommended references from all applicable 700xx level MATH graduate courses:
 - MATH 701-3 Computer Algebra
 - MATH 708-3 Discrete Optimization
 - MATH 709-3 Numerical Linear Algebra and Optimization
 - MATH 716-3 Numerical Analysis II
 - MATH 718-3 Partial Differential Equations
 - MATH 719-3 Linear Analysis
 - MATH 724-3 Applications of Complex Analysis
 - MATH 725-3 Real Analysis
 - MATH 740-3 Galois Theory
 - MATH 741-3 Commutative Algebra and Algebraic Geometry
 - MATH 742-3 Cryptography
 - MATH 743-3 Combinatorial Theory
 - MATH 745-3 Graph Theory
 - MATH 747-3 Coding Theory
 - MATH 748-3 Network Flows
 - MATH 761-3 Continuous Mathematical Models
 - MATH 762-3 Fluid Dynamics
 - MATH 767-3 Dynamical Systems
 - MATH 770-3 Variational Calculus
 - MATH 795-3 Selected Topics in Applied Mathematics
 - MATH 796-3 Selected Topics in Mathematics

MEMO

Faculty of Science

ATTENTION Senate Committee on Graduate Studies

FROM Peter Ruben, Associate Dean, Faculty of Science

RE Course Change – Biological Sciences

DATE April 24, 2013

TIME 9:03 AM

A number of changes have been made to the MPM graduate program in Department of Biological Sciences. These changes have been approved by the Department and the Faculty Graduate Studies Committee. Please note this includes a reinstatement of BISC841-3. These changes have my approval.



P. Ruben

FROM:

The student completes all of

- BISC 601-2 Agriculture, Horticulture and Urban Pest Management
- BISC 602-2 Forest Pest Management
- **BISC 844-3 Biological Controls**
- BISC 847-3 Pest Management in Practice

and two of

- BISC 816-3 Biology and Management of Forest Insects
- ~~BISC 817-3 Social Insects~~
- **BISC 838-3 Population Dynamics and Demography**
- BISC 841-3 **Plant Diseases and Plant Biotechnology**
- ~~BISC 842-3 Insect Development and Reproduction~~
- ~~BISC 843-3 Population Processes~~
- ~~BISC 844-3 Biological Controls~~
- BISC 846-3 Insecticide Chemistry and Toxicology
- ~~BISC 851-3 Vertebrate Pests~~
- BISC 852-3 ~~Biology of Animal Disease Vectors~~ **Ecological and Molecular Interactions between Insect Vectors and Parasites**
- BISC 884-3 Special Topics in Pest Biology and Management
-

~~and one additional 800 division elective (three units).~~

One of these courses can be substituted by an 800 division elective (three units) OR STAT 650-5 Quantitative Analysis in Resource Management and Field Biology

Thesis Requirements

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

- BISC 849-~~618~~ Master of Pest Management Thesis

and continues enrolling in that course until the thesis is finished

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

TO:

The student completes all of

- BISC 601-2 Agriculture, Horticulture and Urban Pest Management
- BISC 602-2 Forest Pest Management
- BISC 844-3 Biological Controls
- BISC 847-3 Pest Management in Practice

and two of

- BISC 816-3 Biology and Management of Forest Insects
- BISC 838-3 Population Dynamics and Demography
- BISC 841-3 Plant Diseases and Plant Biotechnology
- BISC 846-3 Insecticide Chemistry and Toxicology
- BISC 852-3 Ecological and Molecular Interactions between Insect Vectors and Parasites
- BISC 884-3 Special Topics in Pest Biology and Management
-

One of these courses can be substituted by an 800 division elective (three units) OR STAT 650-5 Quantitative Analysis in Resource Management and Field Biology

Thesis Requirements

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

- BISC 849-18 Master of Pest Management Thesis

and continues enrolling in that course until the thesis is finished

The thesis will be defended publicly. The examining committee is comprised 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.

SGSC checklist: Course deletion form

☐ **Course Number/Credit**
BISC 842-3

☐ **Title**
(1) LONG title

Molecular Physiology of Insects

(2) SHORT title

☐ **Rationale for the deletion:**

Has not been offered in years, we no longer have the expertise to offer this course

☒ **Effective Term and Year**
January 2014

Before submission to SGSC:

☒ check that this course is not needed for degree completion

☒ check that this course is not cross-listed with other units.

☐ If it is:

☐ ensure that all entries are deleted throughout the calendar.

☐ if this deletion affects the unit's calendar entry (apart from the list of courses), please attach the new calendar language.

SGSC checklist: Course deletion form

☐ **Course Number/Credit**
BISC 851-3

☐ **Title**
(1) LONG title

Vertebrate Pests

(2) SHORT title

☐ **Rationale for the deletion:**

Has not been offered in years, we no longer have the expertise to offer this course

☒ **Effective Term and Year**
January 2014

Before submission to SGSC:

☒ check that this course is not needed for degree completion

☒ check that this course is not cross-listed with other units.

☐ If it is:

☐ ensure that all entries are deleted throughout the calendar.

☐ if this deletion affects the unit's calendar entry (apart from the list of courses), please attach the new calendar language.

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program Biological Sciences	Contact name Julian Guttman	Contact email jguttman@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☒ Units ☐ Title ☐ Description ☐ Other: _____		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) BISC	Number (eg. 810) 849	Units (eg. 4) 6
Course title (max 80 characters) MPM Thesis		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any)		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) BISC	Number (eg. 810) 849	Units (eg. 4) 18
Course title (max 80 characters) MPM Thesis		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☒ In Progress / Complete ☐ _____		
Prerequisites (if any)		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Peer Rebon
Senate graduate studies committee name
Wade Parkhouse

Signature
[Signature]
Signature
[Signature]

Date
13 May 13
Date
June 3/13

RE-INSTATEMENT
(5.12-71)



SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Biological Sciences	Contact name Jenny Cory	Contact email jsc21@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☒ Title ☒ Description ☐ Other: _____		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) BISC	Number (eg. 810) 841	Units (eg. 4)
Course title (max 80 characters) Plant disease development and control		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached An examination of the major factors that lead to development of soil-associated and foliar plant diseases in cultivated crops, in relation to the nature, underlying principles, application and limitations of various types of control practices.		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any)		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) BISC	Number (eg. 810) 841	Units (eg. 4)
Course title (max 80 characters) Plant diseases and plant biotechnology		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached An examination of the major factors that lead to development of plant diseases, control practices and the applications of plant biotechnology to disease management.		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any)		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Peter Zuben
Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

[Signature]
Signature
[Signature]
Signature

22 APRIL 2013
Date
June 3 / 13
Date

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program Biological Sciences	Contact name Jenny Cory	Contact email jsc21@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☒ Description ☐ Other: _____		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) BISC	Number (eg. 810) 844	Units (eg. 4)
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached Principles, theory, and practice of the use of living organisms in the natural regulation and the control of organisms. Emphasis will be on parasitic insects, and include host specificity, genetics, genetic controls, and the evolution of host-parasite associations.		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any)		
This is combined with an undergrad course. ☐ Yes ☐ No Course number and units: _____ Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) BISC	Number (eg. 810) 844	Units (eg. 4)
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached Principles, theory, and practice of the use of living organisms in the natural regulation and the control of organisms.		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☒ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any)		
This is combined with an undergrad course. ☐ Yes ☐ No Course number and units: _____ Additional course requirements for graduate students		

APPROVALS

PETER RUBEN
Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

[Signature]
Signature
[Signature]
Signature

22 April 2013
Date
June 3/13
Date

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program Biological Sciences	Contact name Jenny Cory	Contact email jsc21@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☒ Title ☒ Description ☐ Other: _____		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) BISC	Number (eg. 810) 852	Units (eg. 4)
Course title (max 80 characters) Biology of Animal Disease Vectors		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached Physiological, molecular, and behavioural interactions between parasites of human importance and their insect vectors. Emphasis placed on current literature relating to modern approaches in reducing parasite transmission.		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any)		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) BISC	Number (eg. 810) 852	Units (eg. 4)
Course title (max 80 characters) Ecological and Molecular Interactions between Insect Vectors and Parasites		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached Interactions between parasites and their arthropod vectors. Emphasis is placed on recent advances in our understanding of the interactions, including aspects that can be exploited to reduce parasite transmission.		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☒ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any)		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

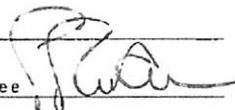
APPROVALS

Peter Kubow
Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

[Signature]
Signature
[Signature]
Signature

22 April 2013
Date
June 3 / 13
Date

MEMO

ATTENTION Senate Graduate Studies Committee	TEL
FROM Peter Ruben, Chair, Faculty of Science Graduate Program Committee	
RE Minor course changes, BISC	
DATE May 14, 2013	TIME 4:16 PM

At the urging of DGS, the Department of Biological Sciences has reviewed its unit allocation for the Master and PhD theses courses. The BISC graduate studies committee has agreed to increase the unit allocation for the Masters theses courses to 18 units. Because Masters students in BISC require a minimum of 12 units of course work, this will make the entire degree worth at least 30 units. Following that rationale, the requests attached increase the units for BISC 849 (MPM Thesis) and BISC 898 (MSc Thesis) from 6 to 18 units.

The Faculty of Science Graduate Committee has approved this ~~this~~ request.

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Biological Sciences	Contact name Julian Guttman	Contact email jguttman@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☒ Units ☐ Title ☐ Description ☐ Other: _____		

CURRENT COURSE

Please complete only the fields to be changed.

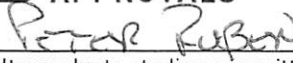
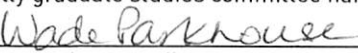
Program (eg. LBST) BISC	Number (eg. 810) 898	Units (eg. 4) 6
Course title (max 80 characters) MSc Thesis		
Short title (appears on transcripts, max 25 characters) MSc Thesis		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any)		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) BISC	Number (eg. 810) 898	Units (eg. 4) 18
Course title (max 80 characters) MSc Thesis		
Short title (appears on transcripts, max 25 characters) MSc Thesis		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☒ In Progress / Complete ☐ _____		
Prerequisites (if any)		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS


 Faculty graduate studies committee name

 Senate graduate studies committee name


 Signature

 Signature

22 APRIL 2013
 Date
 June 3/13
 Date

Simon Fraser University

Summer > Biological Sciences > Master of Pest Management Program

Master of Pest Management Program

*Department of Biological Sciences | Faculty of Science
Simon Fraser University Calendar 2013 Summer*

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 practitioners and producers.

The student completes all of

- BISC 601-2 Agriculture, Horticulture and Urban Pest Management
- BISC 602-2 Forest Pest Management
- BISC 847-3 Pest Management in Practice

and two of

- BISC 816-3 Biology and Management of Forest Insects
- BISC 817-3 Social Insects
- BISC 841-3 Plant Disease Development and Control
- BISC 842-3 Insect Development and Reproduction
- BISC 843-3 Population Processes
- BISC 844-3 Biological Controls
- BISC 846-3 Insecticide Chemistry and Toxicology
- BISC 851-3 Vertebrate Pests
- BISC 852-3 Biology of Animal Disease Vectors
- BISC 884-3 Special Topics in Pest Biology and Management

and one additional 800 division elective (three units).

Thesis Requirements

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

- BISC 849-6 Master of Pest Management Thesis

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 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 (residence, course work, academic progress, supervision, research competence requirement, completion time, and degree completion), as well as the specific requirements for the program in which they are enrolled, as shown above.

[Return to biological sciences index page.](#)

For calendar technical problems or errors, contact calendar-sfu@sfu.ca | Calendar changes and corrections

Simon Fraser University

Academic Calendar > Biological Sciences > Biological Sciences Master of Science Program

Biological Sciences Master of Science Program

Department of Biological Sciences | Faculty of Science
Simon Fraser University Calendar 2013 Summer

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. The confidential letters of reference and all other supporting documents should be forwarded directly to the Chair of the Departmental Graduate Studies Committee.

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: <http://students.sfu.ca/calendar/student-info/grad-regulation.html>

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.

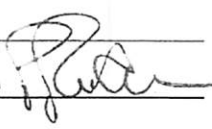
Academic Requirements within the Graduate General Regulations

All graduate students must satisfy the academic requirements that are specified in the Graduate General Regulations (residence, course work, academic progress, supervision, research competence requirement, completion time, and degree completion), as well as the specific requirements for the program in which they are enrolled, as shown above.

Return to biological sciences index page.

For calendar technical problems or errors, contact calendar-sfu@sfu.ca | Calendar changes and corrections

MEMO

ATTENTION Senate Graduate Studies Committee	TEL
FROM Peter Ruben, Chair, Faculty of Science Graduate Program Committee	
RE <u>BPK + MATH</u>	
DATE May 14, 2013	TIME 4:17 PM

The Faculty of Science Graduate Program Committee has approved the following motions and is recommending them to SGSC:

Biomedical Physiology and Kinesiology
Move to cross-list BPK 831-3 with KIN 420-3.

MATH
Move to delete all references to Pre-requisites, Exclusions and Recommended from MATH 7xx level course descriptions.

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program BPK	Contact name Matt White	Contact email matt@sfu.ca
Please revise the following elements of the indicated graduate course: • ☐ Catalogue number ☐ Units ☒ Title ☒ Description ☐ Other:		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) BPK	Number (eg. 810) 831	Units (eg. 4) 3
Course title (max 80 characters) Current Topics in Thermophysiology		
Short title (appears on transcripts, max 25 characters) 		
Course description for SFU Calendar ☐ see attached Provides a detailed understanding of physiological and behavioral mechanisms underlying temperature regulation in humans and other animals. Thermoregulation will be studied during acute and chronic exposure to hot and cold environments, from the cellular to whole body level. The course will examine the relationship between thermoregulatory and other physiological systems (respiratory, muscular, cardiovascular, neural).		
Available course components ☒ Lecture ☐ Seminar ☒ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☒ No		
Grading basis ☒ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) 		
This is combined with an undergrad course. ☐ Yes ☒ No		
Course number and units: _____		
Additional course requirements for graduate students 		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) BPK	Number (eg. 810) 831	Units (eg. 4) 3
Course title (max 80 characters) Current Topics in Thermophysiology		
Short title (appears on transcripts, max 25 characters) 		
Course description for SFU Calendar ☐ see attached Provides a detailed understanding of physiological and behavioral mechanisms underlying temperature regulation in humans and other animals. Thermoregulation will be studied during acute and chronic exposure to hot and cold environments, from the cellular to whole body level. The course will examine the relationship between thermoregulatory and other physiological systems (respiratory, muscular, cardiovascular, neural).		
Available course components ☒ Lecture ☐ Seminar ☒ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☒ No		
Grading basis ☒ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) For UGs Kin 205, Kin 305, Recommended Kin 407		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: <u>Kin 420-3</u>		
Additional course requirements for graduate students 		
Please see attached.		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

Signature
[Signature]
Signature

Date
13 May 13
June 4/13
Date

April 27, 2013

Re: Request for BPKKin 42X to be offered as a cross listed course with BPKKin 831.

As summarized below, both in text and in the table, the differences between the undergraduate course and the graduate course are:

- undergraduates will have 25% less contact time and 25% less course materials to study than the graduate students
- the midterms and final exam will cover 25% less material for the undergraduate than the graduate students
- the previous bulleted item will be realized by undergraduate students having midterm and final exams that are 25% shorter than those for the graduate students.
- the undergraduates' point-counter point written summaries and oral presentations will be 50% the length of those by the graduate students
- in addition to these differences above, graduate but not undergraduate students will participate in two 3 hour laboratories and will prepare 2 laboratory reports

	<u>BPKKin 42X</u>	UG Evaluation Value (% of final grade)	<u>BPKKin 831</u>	Graduate Evaluation Value (% of final grade)
Hours of lecture & lab/wk	3 h x 13 lectures =39 h <u>0 h laboratory</u> Total =39 h	-	4 h x 7 lect. = 28 h 3 h x 6 lect. = 18 h <u>3 h x 2 lab. = 6 h</u> Total = 52 h	-
Midterm Exam	75% of the lecture material for graduate students ¹	25%	-	5%
Point- Counterpoints	2 x 500 word written summaries 2 x 10 min oral presentations	2 x 20%	2 x 1000 word written summaries 2 x 20 min oral presentations	2 x 20%
Laboratory work & reports	None	-	2 x 3 h lab sessions & written laboratory reports	20%
Final Exam	75% of the lecture material for graduate students ¹	35%		35%
Total	-	100%		100%

¹This will be realized by 7 of the lectures being 1 h shorter for UG vs. graduate students and the graduate students participating in 2 x 3 h laboratories

**MEMO**DEPARTMENT OF MATHEMATICS

ATTENTION Peter Ruben, Associate Dean
Research and Graduate Studies
Faculty of Science

From: Tom Archibald and Stephen Choi,
Graduate Program Co-Chairs
Mathematics Department
Local 23059
mathgsec@sfu.ca

RE: Graduate Course Minor Changes

Date: May 2, 2013

The Mathematics Graduate Studies Committee approved the deletion of Pre-requisites, Exclusions and Recommended references from course descriptions for all 7xx level Mathematics Graduate Courses and is forwarding the changes to the SCI Faculty Graduate Studies Committee to approve and recommend to SGSC.

Rationale: Given that MATH graduate students come from all over the globe, applying SFU undergraduate restrictions on course enrolment in 7xx level Mathematics Graduate Courses is unfair to incoming students.

The Graduate Course Minor Change Forms are attached for the following courses:

M701
M708
M709
M716
M718
M719
M724
M725
M740
M741
M742
M743
M745
M747
M748
M761
M762
M767
M770
M795
M796


Stephen Choi

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 701	Units (eg. 4) 3
Course title (max 80 characters) Computer Algebra		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Pre-requisite: CMPT 307 or MATH 332		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: <u>MACM 401-3</u>		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 701	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Peter Ruben
Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

[Signature]
Signature
[Signature]
Signature

2 May 13
Date
June 3/13
Date

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Exclusion		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 708	Units (eg. 4) 3
Course title (max 80 characters) Discrete Optimization		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Pre-requisite: Same as for MATH 408 or equivalent. Exclusion: MATH 408-3		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 408-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 708	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite & Exclusion		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse

Senate graduate studies committee name

Signature
Wade Parkhouse

Signature

Date
2 May 13

Date
June 3/13

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Exclusion		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 709	Units (eg. 4) 3
Course title (max 80 characters) Numerical Linear Algebra and Optimization		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Pre-requisite: Same as for MACM 409 or equivalent. Exclusion: MACM 409-3		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: <u>MACM 409-3</u>		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 709	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite & Exclusion		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

Signature
[Signature]
Signature

Date
2 June 13
Date
June 3/13

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 716	Units (eg. 4) 3
Course title (max 80 characters) Numerical Analysis II		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Pre-requisite: MATH 310 (or 352) and MACM 316		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MACM 409-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 716	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

Signature
Wade Parkhouse
Signature

Date
2 May 13
June 3/13
Date



SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Recommended		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 718	Units (eg. 4) 3
Course title (max 80 characters) Partial Differential Equations		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Pre-requisite: MATH 314 (or PHYS 384) or permission of the department. Recommended: MATH 242 and 320.		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: <u>MATH 418-3</u>		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 718	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Delete Pre-requisite & Recommended		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Peter Ruben
Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

[Signature]
Signature
[Signature]
Signature

2 May 13
Date
June 3/13
Date

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Recommended		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 719	Units (eg. 4) 3
Course title (max 80 characters) Linear Analysis		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Pre-requisite: MATH 232, 320 or permission of the instructor. Recommended: MATH 252.		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 419-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 719	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite & Recommended		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

Signature
[Signature]
Signature

Date
2 May 13
June 3 / 13
Date

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 724	Units (eg. 4) 3
Course title (max 80 characters) Applications of Complex Analysis		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Pre-requisite: MATH 322		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 419-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 724	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse

Signature
Wade Parkhouse

Date
2 May 13
June 3/13



SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite		

CURRENT COURSE

Please complete only the fields to be changed.

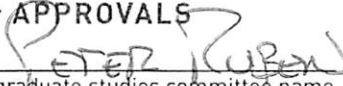
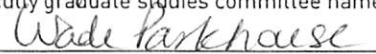
Program (eg. LBST) MATH	Number (eg. 810) 725	Units (eg. 4) 3
Course title (max 80 characters) Real Analysis		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Pre-requisite: MATH 320		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 419-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

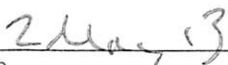
Program (eg. LBST) MATH	Number (eg. 810) 725	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Delete Pre-requisite		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units:		
Additional course requirements for graduate students		

APPROVALS


Faculty graduate studies committee name

Senate graduate studies committee name


Signature

Signature


Date
June 3/13
Date

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 740	Units (eg. 4) 3
Course title (max 80 characters) Galois Theory		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Pre-requisite: MATH 332		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 440-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 740	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Tankhouse
Senate graduate studies committee name

Signature
Wade Tankhouse
Signature

Date
June 3/13
Date



SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 741	Units (eg. 4) 3
Course title (max 80 characters) Commutative Algebra and Algebraic Geometry		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Pre-requisite: Appropriate knowledge of algebraic structures.		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 441-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 741	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Delete Pre-requisite		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units:		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

Signature
[Signature]
Signature

Date
2 May 13
June 3 / 13
Date

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Exclusion		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 742	Units (eg. 4) 3
Course title (max 80 characters) Cryptography		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Prerequisite: Same as for MACM 442 or equivalent. Exclusion: MACM 442-3		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 442-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 742	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite & Exclusion		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Wade Parkhouse
 Faculty graduate studies committee name
Wade Parkhouse
 Senate graduate studies committee name

[Signature]
 Signature
[Signature]
 Signature

2 May 13
 Date
June 3/13
 Date



Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Recommended		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 743	Units (eg. 4) 3
Course title (max 80 characters) Combinatorial Theory		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Pre-requisite: MATH 343 and MATH 340 or 332. Recommended: MATH 345 & 440		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: <u>MATH 443-3</u>		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 743	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Delete Pre-requisite & Recommended		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Yeter Ruben
Senate graduate studies committee name
Wade Parkhouse

Signature
[Signature]
Signature
[Signature]

Date
2 May 13
Date
June 3/13

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Recommended		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 745	Units (eg. 4) 3
Course title (max 80 characters) Graph Theory		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Pre-requisite: MATH 345. Recommended: MATH 343		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 445-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 745	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite & Recommended		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Peter Kubel
Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name


Signature

Signature

2 May 13
Date
June 3 / 13
Date

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Recommended		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 747	Units (eg. 4) 3
Course title (max 80 characters) Coding Theory		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Pre-requisite: MATH 232. Recommended: MATH 332		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 445-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 747	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite & Recommended		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse

Senate graduate studies committee name

Signature
[Signature]

Signature

Date
2 May 13

Date
June 3 / 13

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Exclusion		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 748	Units (eg. 4) 3
Course title (max 80 characters) Network Flows		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Pre-requisite: Same as for MATH 448 or equivalent. Exclusion: MATH 448-3		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: <u>MATH 448-3</u>		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 748	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite & Exclusion		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse

Senate graduate studies committee name

Signature
[Signature]

Signature
[Signature]

Date
2 May 13

Date
June 3 / 13



Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 761	Units (eg. 4) 3
Course title (max 80 characters) Continuous Mathematical Models		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Pre-requisite: MATH 314 and MACM 316		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 461-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 761	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Delete Pre-requisite		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units:		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

Signature
[Signature]
Signature

Date
2 May 13
June 3/13
Date



SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite		

CURRENT COURSE

Please complete only the fields to be changed.

Program [eg. LBST] MATH	Number [eg. 810] 762	Units [eg. 4] 3
Course title (max 80 characters) Fluid Dynamics		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Pre-requisite: MATH 314 or PHYS 384, MATH 322		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MACM 462-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program [eg. LBST] MATH	Number [eg. 810] 762	Units [eg. 4] 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Delete Pre-requisite		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units:		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

Signature
[Signature]
Signature

Date
2 May 13
June 3/13
Date



SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Recommended		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 767	Units (eg. 4) 3
Course title (max 80 characters) Dynamical Systems		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Pre-requisite: MATH 310. Recommended: MATH 320		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 467-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 767	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Delete Pre-requisite & Recommended		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units:		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

Signature
Wade Parkhouse
Signature

Date
2 May 13
June 3/13
Date



SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES

Graduate Course Minor Change Form

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DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Exclusion		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 770	Units (eg. 4) 3
Course title (max 80 characters) Variational Calculus		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Prerequisite: Same as for MATH 470 or equivalent. Exclusion: MATH 470-3.		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 470-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 770	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Delete Pre-requisite & Exclusion		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units:		
Additional course requirements for graduate students		

APPROVALS

Peter Ruben
Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

[Signature]
Signature
[Signature]
Signature

2 May 13
Date
June 3/13
Date



SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Exclusion		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 795	Units (eg. 4) 3
Course title (max 80 characters) Selected Topics in Applied Mathematics		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Prerequisite: Same as for MATH 495 or equivalent. Exclusion: MATH 495-3.		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: MATH 495-3		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 795	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐		
Prerequisites (if any) Delete Pre-requisite & Exclusion		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units:		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse
Senate graduate studies committee name

Signature
[Signature]
Signature

Date
2 May 13
Date
June 3 / 13

Graduate Course Minor Change Form

This form is for an SFU department or program to request a minor change to an existing graduate course. After approval and signature by the faculty graduate studies committee, this form should be forwarded to the Dean of Graduate Studies for approval by the Senate Graduate Studies Committee (SGSC). SGSC will forward the approval to Senate for information.

DEPARTMENT

Department / School / Program Mathematics	Contact name Diane Pogue	Contact email mathgsec@sfu.ca
Please revise the following elements of the indicated graduate course: ☐ Catalogue number ☐ Units ☐ Title ☐ Description ☒ Other: Pre-requisite & Exclusion		

CURRENT COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 796	Units (eg. 4) 3
Course title (max 80 characters) Selected Topics in Mathematics		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Prerequisite: Same as for MATH 496 or equivalent. Exclusion: Math 496.		
This is combined with an undergrad course. ☒ Yes ☐ No		
Course number and units: <u>MATH 496-3</u>		
Additional course requirements for graduate students		

REVISED COURSE

Please complete only the fields to be changed.

Program (eg. LBST) MATH	Number (eg. 810) 796	Units (eg. 4) 3
Course title (max 80 characters)		
Short title (appears on transcripts, max 25 characters)		
Course description for SFU Calendar ☐ see attached		
Available course components ☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum ☐ Online ☐ _____		
Practicum work done in this class will involve children or vulnerable adults (If the "Yes" box is checked, all students and instructors will require criminal record checks) ☐ Yes ☐ No		
Grading basis ☐ Graded ☐ Satisfactory / Unsatisfactory ☐ In Progress / Complete ☐ _____		
Prerequisites (if any) Delete Pre-requisite & Exclusion		
This is combined with an undergrad course. ☐ Yes ☐ No		
Course number and units: _____		
Additional course requirements for graduate students		

APPROVALS

Faculty graduate studies committee name
Wade Parkhouse

Senate graduate studies committee name

Signature
[Signature]

Signature
[Signature]

Date
2 May 13

Date
June 3/13