S.10-125

MEMO

Dean of
Graduate Studies

STREET ADDRESS
Maggie Benston
Student Services
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Burnaby BC V5A 1S6
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TO: Senate

TEL

FROM Wade Parkhouse, Dean, Graduate Studies

RE Faculty of Science **[GS2010.23]**

CC Derek Bingham

DATE September 14, 2010

For information
Acting under delegated authority at its meeting of 13 September 2010, the SGSC approved the following curriculum revisions:

Faculty of Science **[GS2010.23]**

a) Department of Molecular Biology and Biochemistry

i) Change of degree requirements to include at least one credit of MBB colloquia

b. Department of Biological Sciences

i) New courses:
BISC 830-3 Community Ecology and Macroecology
BISC 831-1 Research Seminars in Biological Sciences
BISC 832-1 Research Seminars in Biological Sciences
BISC 833-1 Research Seminars in Biological Sciences
BISC 834-3 Essential Cell Biology

c) Department of Biomedical Physiology & Kinesiology

i) Change of course description: KIN 870-3

Senators wishing to consult a more detailed report of curriculum revisions may do so on the Web at http://www.sfu.ca/senate/Senate_agenda.html following the posting of the agenda. If you are unable to access the information, please call 778.782.3168 or email shelley_gair@sfu.ca.

SFU

TO: W. Parkhouse
Dean of Graduate Studies

FROM: D. Bingham, Chair
Faculty of Science Graduate Studies Committee

RE: **MBB Program Change**
BISC New Courses – 830, 831, 832, 833 and 834

DATE: July 28, 2010

The following has been approved by the Faculty of Science and are forwarded for approval by the Senate Graduate Studies Committee. Please include them on the next SGSC agenda.

Molecular Biology & Biochemistry

Minor program change to require new MBB graduate students to take at least one credit of MBB colloquia for their degree requirements.

Biological Sciences

New Courses:

BISC 830 – Community Ecology and Macroecology
BISC 831 – Research Seminars in Biological Sciences
BISC 832 – Research Seminars in Biological Sciences
BISC 833 – Research Seminars in Biological Sciences
BISC 834 – Essential Cell Biology

D. Bingham

Enclosure

c. M. Plischke

SFU

DEPARTMENT OF MOLECULAR BIOLOGY AND BIOCHEMISTRY

Memorandum

To: Science Graduate Studies Committee
Re: Minor Program Change

From: Nicholas Harden, Chair, DGSC
Date: July 8, 2010

1. Proposed program change:

The proposed program change is to require new MBB graduate students to take one unit (one semester) of one of the MBB colloquium courses for their degree requirements. Students may take an additional 2 units of colloquia and/or journal clubs for degree completion credit.

2. Affect on existing program:

The change will have little effect on the existing program other than ensuring that all students do at least one credit of colloquia. Students not choosing to do an additional 2 units of colloquia/journal club, but rather taking a 3-unit course, would end up completing their degree with one unit more than is required.

3. Justification for change:

A major concern is that new MBB graduate students often have little experience with reading and critically evaluating primary research papers, skills essential for a successful research career. The MBB colloquia were created to help students develop these skills but are optional and often poorly attended. The proposed change will ensure that every student does one unit of colloquium, and will encourage students to do a further 2 units of colloquium and/or journal club to make up the equivalent of a 3-unit course.

4. Current calendar language:

Current calendar language for Master of Science and Ph.D. programs is shown on the next two pages with editing shown for new calendar language (inserted text in italics).

MSc

Program Requirements

Students must complete 12 units of graduate courses, *which must include*~~including~~ ✓

MBB 801-3 Student Seminar in Molecular biology and Biochemistry ~~I~~ and ~~up to three~~*one* units of *one of the following* MBB colloquia: ✓

MBB 821, 822, 823 - Cell and Molecular Biology Colloquium
MBB 861, 862, 863 - Biomolecular Structure and Function Colli~~o~~quium

Other courses are selected in consultation with the Supervisory Committee and can include appropriate courses from MBB and/or other Departments. *Students may take an additional 2 units of colloquia and/or journal clubs for degree completion credit, with journal clubs being taken as one unit* ~~cred~~*it directed readings courses.* ✓

Students must maintain a minimum GPA of 3.0.

Students are expected to attend the Department of Molecular Biology and Biochemistry research seminar series and participate regularly in a journal club. Journal clubs are discussion groups that focus on the current research literature, and can be in the form of the MBB C~~f~~olloquia, directed readings courses, or informal groups consisting of the members of one or more research laboratories.

Simon Fraser University

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Contents

2010-2011 Calendar | Molecular Biology and Biochemistry |

Molecular Biology and Biochemistry Master of Science Program

Department of Molecular Biology and Biochemistry | Faculty of Science
Simon Fraser University Calendar 2010-2011

This molecular biology and biochemistry (MBB) master of science (MSc) program provides advanced education and research training for a career in academia, industry or the public sector and emphasizes development of research skills in combination with relevant course work. The program is of interest to those wishing to use cutting edge laboratory and/or computational approaches to address research problems in biology, biochemistry or biomedical disciplines.

Admission Requirements

Applicants must have a bachelor's degree in a relevant discipline and should preferably have research experience. In addition, applications must have found a Senior Supervisor who is willing to support their application. Applicants should contact faculty members directly to discuss their research interests and confirm the availability of funding and space in their research group. Only students having a proposed Senior Supervisor can be considered for admission to the program.

Program Requirements

Students must complete 12 units of graduate courses, including

- MBB 801-3 Student Seminar in Molecular Biology and Biochemistry I

and up to three units of MBB colloquia:

- MBB 821, 822, 823 - Cell and Molecular Biology Colloquium
- MBB 861, 862, 863 - Biomolecular Structure and Function Colloquium

Other courses are selected in consultation with the Supervisory Committee and can include appropriate courses from MBB and/or other Departments.

Students must maintain a minimum GPA of 3.0.

Students are expected to attend the Department of Molecular Biology and Biochemistry research seminar series and participate regularly in a journal club. Journal clubs are discussion groups that focus on the current research literature, and can be in the form of the MBB colloquia, or informal groups consisting of the members of one or more research laboratories.

5

Thesis

A major part of the program is original research. A thesis describing the research is submitted and defended in accordance with Graduate General Regulations.

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 molecular biology and biochemistry index page.

PhD

Program Requirements

Students who enter the program with a bachelor of science (BSc) degree, or equivalent, are required to complete a minimum total of 18 units, at least 15 of which must be in graduate courses.

All students must complete:

MBB 801-3 Student Seminar in Molecular Biology and Biochemistry I
MBB 806-3 PhD Graduate Research Seminar†
One unit of one of the following MBB colloquia:

MBB 821, 822, 823 - Cell and Molecular Biology Colloquium
MBB 861, 862, 863 - Biomolecular Structure and Function Colloquium

Students may take an additional 2 units of colloquia and/or journal clubs for degree completion credit, with journal clubs being taken as one ~~credit~~unit directed readings courses.

†enrol/ at the earliest opportunity following four terms of program enrolment

~~Up to 3 of the 18 units can consist of MBB colloquia:~~

~~MBB 821, 822, 823 - Cell and Molecular Biology Colloquium~~
~~MBB 861, 862, 863 - Biomolecular Structure and Function Colloquium~~

Students who enter the program with a Master of Science (MSc) degree are required to complete a minimum of six units including both of:

MBB 801-3 Student Seminar in Mole~~Old~~cular Biology and Biochemistry ~~II~~
MBB 806-3 Ph~~M~~.D. - Graduate Research Seminar
completed at the first opportunity following two terms of program enrolment.

If MBB 801-3 has already been taken by the student, the remaining three units must be completed by taking appropriate graduate courses or colloquia.

Students must maintain a min~~i~~mum GPA of 3.0

Simon Fraser University

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Contents

2010-2011 Calendar | Molecular Biology and Biochemistry |

Molecular Biology and Biochemistry Doctor of Philosophy Program

Department of Molecular Biology and Biochemistry | Faculty of Science
Simon Fraser University Calendar 2010-2011

The MBB Ph.D. Program provides advanced education and research training for a career in academia or industry and emphasizes a research apprenticeship in combination with relevant course work. Students have the opportunity to learn from and collaborate with researchers from a range of disciplines related to MBB. The program is of interest to those wishing to use cutting edge laboratory and/or computational approaches to address research problems in biology, biochemistry or biomedical disciplines.

Admission Requirements

Students who possess a Master of Science M.Sc. degree may apply to the MBB graduate program committee to be admitted to the Doctor of Philosophy (Ph.D.) program. Exceptional students holding a Bachelor of Science (BSc) and having relevant research experience may also be considered for entry. Applicants must have found a Senior Supervisor who is willing to consider their application. Applicants should contact faculty members directly to discuss their research interests and confirm the availability of funding and space in their research group. Only students having a proposed Senior Supervisor can be considered for admission to the program.

Program Requirements

Students who enter the program with a bachelor of science (BSc) degree, or equivalent, are required to complete a minimum total of 18 units, at least 15 of which must be in graduate courses.

All students must complete:

- MBB 801-3 Student Seminar in Molecular Biology and Biochemistry I
- MBB 806-3 PhD Graduate Research Seminar†

†enrol at the earliest opportunity following four terms of program enrolment

Up to 3 of the 18 units can consist of MBB colloquia:

- MBB 821, 822, 823 - Cell and Molecular Biology Colloquium
- MBB 861, 862, 863 - Biomolecular Structure and Function Colloquium

Students who enter the program with a master of science (MSc) degree are required to complete a minimum of six units including both of:

- MBB 801-3 Student Seminar in Molecular Biology and Biochemistry II
- MBB 806-3 Ph.D. - Graduate Research Seminar†

†completed at the first opportunity following two terms of program enrolment

If MBB 801-3 has already been taken by the student, the remaining three units must be completed by taking appropriate graduate courses or colloquia.

Students must maintain a minimum GPA of 3.0

Thesis

The emphasis of the program is on original research. An original thesis contributing to new knowledge is presented and defended according to graduate general regulation 1.7.5. The defense includes a public seminar on the contents of the thesis.

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 molecular biology and biochemistry index page.

5. Clean copy of proposed calendar language:

For MSc:

Program Requirements

Students must complete 12 units of graduate courses, which must include

MBB 801-3 Student Seminar in Molecular Biology and Biochemistry
and one unit of one of the following MBB colloquia:

MBB 821, 822, 823 - Cell and Molecular Biology Colloquium
MBB 861, 862, 863 - Biomolecular Structure and Function Colloquium

Other courses are selected in consultation with the Supervisory Committee and can include appropriate courses from MBB and/or other Departments. Students may take an additional 2 units of colloquia and/or journal clubs for degree completion credit, with journal clubs being taken as one unit directed readings courses.

Students must maintain a minimum GPA of 3.0.

Students are expected to attend the Department of Molecular Biology and Biochemistry research seminar series and participate regularly in a journal club. Journal clubs are discussion groups that focus on the current research literature, and can be in the form of the MBB Colloquia, directed readings courses, or informal groups consisting of the members of one or more research laboratories.

For PhD:

Program Requirements

Students who enter the program with a bachelor of science (BSc) degree, or equivalent, are required to complete a minimum total of 18 units, at least 15 of which must be in graduate courses.

All students must complete:

MBB 801-3 Student Seminar in Molecular Biology and Biochemistry
MBB 806-3 PhD Graduate Research Seminar†
One unit of one of the following MBB colloquia:

MBB 821, 822, 823 - Cell and Molecular Biology Colloquium
MBB 861, 862, 863 - Biomolecular Structure and Function Colloquium

Students may take an additional 2 units of colloquia and/or journal clubs for degree completion credit, with journal clubs being taken as one unit directed readings courses.

†enroll at the earliest opportunity following four terms of program enrolment

Students who enter the program with a Master of Science (MSc) degree are required to complete a minimum of six units including both of:

MBB 801-3 Student Seminar in Molecular Biology and Biochemistry
MBB 806-3 Ph.D. - Graduate Research Seminar
completed at the first opportunity following two terms of program enrolment.

If MBB 801-3 has already been taken by the student, the remaining three units must be completed by taking appropriate graduate courses or colloquia.

Students must maintain a minimum GPA of 3.0

NEW GRADUATE COURSE PROPOSAL FORM

Subject: BISC *(max. 4 chars)* **Catalog Number:** 830 -3

Course Title: Community Ecology and Macroecology *(max. 80 char.)*

Short Title *(appears on transcripts etc.)* Community & Macro Ecol *(max. 25 char.)*

Course Description for Calendar: ***(append a course outline as a separate document)***

Interspecific interactions, community assembly, and diversity estimation in ecology

Units: 3

Available Course Components: *(select all that apply)*

☑ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum

Prerequisites: *(if any)*

none

Campus at which course will be offered: Burnaby

Estimated Enrolment: 20 The term course will first be offered: 1111 (January 2011)

Frequency of course offering: every other yea

Grading Basis: ☑ Graded ☐ Satisfactory/Unsatisfactory ☐ In Progress/Complete

Justification:

Although several faculty members with active graduate training programs perform research in the broad areas of community ecology and macroecology, we have no graduate course in this area. This course is proposed to replace existing courses (which will be deleted) that no longer reflect the makeup of our vibrant graduate program in ecology (currently approximately 80 of 150 graduate students in BISC are in ecology).

Resources:

Faculty member(s) who will normally teach this course:
(append information about their competency to teach the course)

Drs. Nick Dulvy and Elizabeth Elle. Both have active research programs in this area.

Number of additional faculty members required in order to offer this course: none

Additional space required in order to offer this course: ***(append details)*** none

Additional specialized equipment required in order to offer this course: ***(append details)***

none

Additional Library resources required: ***(append details)*** Annually $ 0 One-time $ 0

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Upon approval of the course proposal, the Dean of Graduate Studies office will consult with the department or school regarding other course attributes that may be required to enable the proper entry of the new course in the student record system.

Course Outline: BISC 830, Community ecology and macroecology

First offering: January 2011

Instructors: Dr. Nick Dulvy (nick_dulvy@sfu.ca)
Dr. Elizabeth Elle (eelle@sfu.ca)

Readings: will be assigned weekly from the primary literature.

Useful books for reference:

Brown, J. H. 1995. Macroecology (University of Chicago Press).
Gaston, K. J. & Blackburn, T. M. 2000. Pattern and process in macroecology (Blackwell Science, Oxford).
Magurran, A. E. 2004. Measuring biological diversity. (Blackwell Science, Oxford).
Morin, P. J. 1999. Community Ecology (Blackwell Science, Oxford)
Real, L. A.& Brown, J.H. 1991. Foundations of Ecology: Classic papers with commentaries. (University of Chicago Press),

Part 1: Communities as interactions

- Interaction types, interaction strengths, and how to study them
- Competition (includes mechanisms, models, experimental evidence)
- Predation (includes predator-prey dynamics, food webs and trophic cascades)
- Mutualisms and indirect effects
- Temporal and spatial effects on interactions within communities

Part 2: Large-scale patterns in ecological communities

- Community assembly and disassembly
- Diversity and species coexistence (including niche and neutral models)
- Size spectra and the metabolic theory of ecology
- Biogeography and macroecology in conservation

Evaluation:

Discussions (leading and participation) 20%
Review paper / Wikipedia page 50%
Presentation 30%

NEW GRADUATE COURSE PROPOSAL FORM

Subject: BISC *(max. 4 chars)* **Catalog Number:** 831-1

Course Title: Research Seminars in Biological Sciences *(max. 80 char.)*

Short Title *(appears on transcripts etc.)* Res Seminars Biol *(max. 25 char.)*

Course Description for Calendar: ***(append a course outline as a separate document)***

Advanced research seminars on a variety of current, cutting-edge biological topics

Units: 1

Available Course Components: *(select all that apply)*

☐ Lecture ☑ Seminar ☐ Laboratory ☐ Practicum

Prerequisites: *(if any)*

None

Campus at which course will be offered: Burnaby

Estimated Enrolment: 3 The term course will first be offered: 1107 (September 2010)

Frequency of course offering: Every year

Grading Basis: ☐ Graded ☑ Satisfactory/Unsatisfactory ☐ In Progress/Complete

Justification:

There is a need for courses that encourage a broadening, rather than a narrowing, of the sphere of knowledge of graduate students. This course, along with its companion courses, BISC 832 and BISC 833, will serve this purpose.

Resources:

Faculty member(s) who will normally teach this course:
(append information about their competency to teach the course)

BISC 800 instructors (varies from year to year)

Number of additional faculty members required in order to offer this course: None

Additional space required in order to offer this course: ***(append details)*** None

Additional specialized equipment required in order to offer this course: ***(append details)***

None

Additional Library resources required: ***(append details)*** Annually $ 0 One-time $ 0

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Upon approval of the course proposal, the Dean of Graduate Studies office will consult with the department or school regarding other course attributes that may be required to enable the proper entry of the new course in the student record system.

NEW GRADUATE COURSE PROPOSAL FORM

Subject: BISC *(max. 4 chars)* **Catalog Number:** 832-1

Course Title: Research Seminars in Biological Sciences *(max. 80 char.)*

Short Title *(appears on transcripts etc.)* Res Seminars Biol *(max. 25 char.)*

Course Description for Calendar: ***(append a course outline as a separate document)***

Advanced research seminars on a variety of current, cutting-edge biological topics

Units: 1

Available Course Components: *(select all that apply)*

☐ Lecture ☑ Seminar ☐ Laboratory ☐ Practicum

Prerequisites: *(if any)*

None

Campus at which course will be offered: Burnaby

Estimated Enrolment: 3 The term course will first be offered: 1107 (September 2010)

Frequency of course offering: Every year

Grading Basis: ☐ Graded ☑ Satisfactory/Unsatisfactory ☐ In Progress/Complete

Justification:

There is a need for courses that encourage a broadening, rather than a narrowing, of the sphere of knowledge of graduate students. This course, along with its companion courses, BISC 831 and BISC 833, will serve this purpose.

Resources:

Faculty member(s) who will normally teach this course:
(append information about their competency to teach the course)

BISC 800 instructors (varies from year to year)

Number of additional faculty members required in order to offer this course: None

Additional space required in order to offer this course: ***(append details)*** None

Additional specialized equipment required in order to offer this course: ***(append details)***

None

Additional Library resources required: ***(append details)*** Annually $ 0 One-time $ 0

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Upon approval of the course proposal, the Dean of Graduate Studies office will consult with the department or school regarding other course attributes that may be required to enable the proper entry of the new course in the student record system.

NEW GRADUATE COURSE PROPOSAL FORM

Subject: BISC *(max. 4 chars)* **Catalog Number:** 833-1

Course Title: Research Seminars in Biological Sciences *(max. 80 char.)*

Short Title *(appears on transcripts etc.)* Res Seminars Biol *(max. 25 char.)*

Course Description for Calendar: ***(append a course outline as a separate document)***

Advanced research seminars on a variety of current, cutting-edge biological topics

Units: 1

Available Course Components: *(select all that apply)*

☐ Lecture ☑ Seminar ☐ Laboratory ☐ Practicum

Prerequisites: *(if any)*

None

Campus at which course will be offered: Burnaby

Estimated Enrolment: 3 The term course will first be offered: 1107 (September 2010)

Frequency of course offering: Every year

Grading Basis: ☐ Graded ☑ Satisfactory/Unsatisfactory ☐ In Progress/Complete

Justification:

There is a need for courses that encourage a broadening, rather than a narrowing, of the sphere of knowledge of graduate students. This course, along with its companion courses, BISC 831 and BISC 832, will serve this purpose.

Resources:

Faculty member(s) who will normally teach this course:
(append information about their competency to teach the course)

BISC 800 instructors (varies from year to year)

Number of additional faculty members required in order to offer this course: None

Additional space required in order to offer this course: ***(append details)*** None

Additional specialized equipment required in order to offer this course: ***(append details)***

None

Additional Library resources required: ***(append details)*** Annually $ 0 One-time $ 0

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Upon approval of the course proposal, the Dean of Graduate Studies office will consult with the department or school regarding other course attributes that may be required to enable the proper entry of the new course in the student record system.

Course title **BISC 831, 832 & 833**
Research Seminars in Biological Sciences

Instructor The instructor of BISC 800 (varies from year to year, but currently includes Dr Isabelle Côté and Dr Julian Christians) will act as a coordinator for these courses

Description Students will be required to attend a minimum of 8 of the 14 departmental research seminars presented in a single semester. The seminar topics will vary from semester to semester, but students are encouraged to select seminars that are outside of their own field of research

Grading Satisfactory/unsatisfactory on the basis of 2 pre-seminar research synopses (to be read by the seminar speaker host) and attendance to 8 seminars

Required/recommended texts None. Readings of primary literature associated with the subject of pre-seminar synopses will be expected

Materials/supplies None

Prerequisite Current graduate registration

NEW GRADUATE COURSE PROPOSAL FORM

Subject: BISC *(max. 4 chars)* **Catalog Number:** 834 -3

Course Title: Essential Cell Biology *(max. 80 char.)*

Short Title *(appears on transcripts etc.)* Essential Cell Biology *(max. 25 char.)*

Course Description for Calendar: ***(append a course outline as a separate document)***

Review of basic processes in cell biology including, but not limited to, cell adhesion/migration, cytoskeleton, endo-/exocytosis, intracellular trafficking, signal transduction, ion homeostasis, energy generation, protein processing/apoptosis, post-translation modifications, genomics. A review of each topic will be followed by an introduction to cutting-edge work in this field.

Units: 3

Available Course Components: *(select all that apply)*

☑ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum

Prerequisites: *(if any)*

Permission of the course coordinator

Campus at which course will be offered: Burnaby

Estimated Enrolment: 10-15 The term course will first be offered: 1111

Frequency of course offering: biennially

Grading Basis: ☑ Graded ☐ Satisfactory/Unsatisfactory ☐ In Progress/Complete

Justification:

Although there are a few graduate courses that cover specific aspects of cell biology, we would like to have a core cell biology course that would cover most aspects of basic cell biology, and that includes an introduction to innovative work in each field.

Resources:

Faculty member(s) who will normally teach this course:
(append information about their competency to teach the course)

Please see attached.

Number of additional faculty members required in order to offer this course: None

Additional space required in order to offer this course: ***(append details)*** None

Additional specialized equipment required in order to offer this course: ***(append details)***

None

Additional Library resources required: ***(append details)*** Annually $ 0 One-time $ _____

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Upon approval of the course proposal, the Dean of Graduate Studies office will consult with the department or school regarding other course attributes that may be required to enable the proper entry of the new course in the student record system.

Proposed Core Graduate Course in Cell Biology
Essential Cell Biology 834-3

GENERAL NOTES

The purpose of this course is to provide a broad background in cell biology for graduate students focussing on recent trends and methodologies. Unlike a special topics course, the areas (or themes) that are covered will be relatively constant.

- The course will be team taught mostly by Biology faculty though we may wish to ask instructors in other departments/faculties/institutions to give a lecture according to their expertise (no more than 3 outside Biology per semester)
- The intent is to have instructors provide a survey of their particular Theme, from basic concepts to current controversies, with sufficient leeway to allow for individuals to tailor the content to their expertise
- Details on methods should be covered in the context of each Theme
- A course coordinator will be appointed from the group of teaching faculty who will coordinate the course. They will receive teaching credit (full course) that semester. Each instructor will take a turn to act as coordinator and receive teaching credit for that semester.
- The course is expected to attract 10-15 students from Biology, MBB, BPK and FHS (and perhaps some Chem students)
- Would be offered once every two years depending on demand (assessed once we get going)
- The offering of this course will be timed so that special topics cell biology courses conflict as little as possible

FORMAT AND EVALUATION

Students will meet with the instructor once each week for a 3-hour session; the format can be variable according to the instructor, e.g., Two 50 minute lectures plus 50 minutes of discussion; One 50-minute lecture plus discussion of relevant papers; One 50 minute lecture plus a computer assignment done in class, etc. etc. It is expected that instructors will present their material either in a lecture or interactive format that is not dependent on student presentations (particularly because we expect more than 15 students per class).

All Themes will be assessed in the form of a take-home exam/assignment that is marked by that instructor. Each theme assignment will be worth 1/12 (or 1/11) of the final mark.

FACULTY MEMBERS WHO WOULD NORMALLY TEACH THIS COURSE

Carl Lowenberger, Gordon Rintoul, Harald Hutter, Julian Guttman, Jim Mattsson, Michael Silverman, Sherryl Bisgrove, Allison Kermode, Norbert_Haunerland, Margo Moore, plus up to three members from other departments; the participation may change from semester to semester.

SUGGESTED THEMES, IN NO PARTICULAR ORDER (RUNNING OVER 11-12 WEEKS)

*Themes may vary slightly depending on the faculty members participating that semester

1. Cell adhesion/migration
2. Cytoskeleton
3. Endo- and exocytosis
4. Intracellular trafficking
5. Signal transduction
6. Ion homeostasis
7. Energy generation
8. Protein processing/degradation/apoptosis
9. Post-translational modifications
10. RNA
11. Regulation of gene transcription
12. Genomics

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SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES OFFICE

SENATE GRADUATE STUDIES COMMITTEE FORM

GRADUATE COURSE MINOR CHANGE FORM

This form is to be used when there is a request for a minor change to an existing graduate course. The form is completed by the department and then approved by the Faculty graduate studies committee. It should then be forwarded to the Dean of Graduate Studies for approval by SGSC. SGSC will forward the approval to Senate for information. NOTE: Please complete pertinent sections only

Please Check appropriate revision(s):

☐ Catalog Number ☐ Units ☒ Title ☐ Description ☐ Other

RECEIVED
JUL 26 2010
DEAN OF GRADUATE STUDIES OFFICE

Department or School: REM

Current course

Subject: REM *(max: 4 chars)* **Catalog Number:** 642 **Units:** 5

Course Title: Regional Planning I *(max. 80 char)*

Short Title *(appears on transcripts etc.)* _____ *(max. 25 char)*

Course Description for Calendar:

Available Course Component:
☐Lecture ☐Seminar ☐Laboratory ☐Practicum

Grading Basis: ☐Graded ☐Satisfactory/Unsatisfactory ☐In Progress/Complete

Prerequisites: *(if any)*

Modified Course

Subject: _____ *(max: 4 chars)* **Catalog Number:** _____ **Units:** 5 ✓

Course Title: Sustainable Community Planning and Regional Development *(max. 80 char)*

Short Title *(appears on transcripts etc.)* Sust Com Planning & Dev *(max. 25 char)*

Course Description for Calendar:

Available Course Component:
☐Lecture ☐Seminar ☐Laboratory ☐Practicum

Grading Basis: ☐Graded ☐Satisfactory/Unsatisfactory ☐In Progress/Complete

Prerequisites: (if any) _____

Attach rationale for changes as a separate document.

Approvals

Faculty Graduate Studies Committee _____ Date Aug Sept 13, 10

Senate Graduate Studies Committee _____ Date Aug 10/10

Upon approval of the minor course change, the Dean of Graduate Studies office will consult with the department or school regarding other course attributes that may be required to enable the proper entry of the course change in the student record system

✓

SFU

SIMON FRASER UNIVERSITY
DEAN OF GRADUATE STUDIES OFFICE

SENATE GRADUATE STUDIES COMMITTEE FORM

GRADUATE COURSE MINOR CHANGE FORM

This form is to be used when there is a request for a minor change to an existing graduate course. The form is completed by the department and then approved by the Faculty graduate studies committee. It should then be forwarded to the Dean of Graduate Studies for approval by SGSC. SGSC will forward the approval to Senate for information. NOTE: Please complete pertinent sections only

Please Check appropriate revision(s):

☐ Catalog Number ☐ Units ☐ Title ☒ Description ☐ Other

Department or School: Biomedical Physiology & Kinesiology

Current course

Subject: KIN *(max: 4 chars)* **Catalog Number:** ~~870~~ Spring 17/a **Units:** 3

Course Title: Experiments and Models in Physiology *(max. 80 char)*

Short Title *(appears on transcripts etc.)* _____ *(max. 25 char)*

Course Description for Calendar:

Introduction to the basic principles of mathematical modeling of physiological systems and mathematical techniques that are commonly used in modeling. The course will provide students with an opportunity to learn and apply some of these techniques and to develop an appreciation for the utility of mathematical models, as well as

Available Course Component:

☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum

Grading Basis: ☐ Graded ☐ Satisfactory/Unsatisfactory ☐ In Progress/Complete

Prerequisites: *(if any)*

Modified Course

Subject: KIN *(max: 4 chars)* **Catalog Number:** 870 **Units:** 3

Course Title: Experiments and Models in Physiology *(max. 80 char)*

Short Title *(appears on transcripts etc.)* _____ *(max. 25 char)*

Course Description for Calendar:

Description: Lectures, experiments, mathematical modeling and reviews of original research literature will provide an advanced understanding of select human physiological systems. Students will get hands-on experience in the acquisition of physiological data and with the mathematical and computer modeling of physiological systems.

Available Course Component:

☐ Lecture ☐ Seminar ☐ Laboratory ☐ Practicum

Grading Basis: ☐ Graded ☐ Satisfactory/Unsatisfactory ☐ In Progress/Complete

Prerequisites: (if any) Prerequisite: a strong mathematical background.

Attach rationale for changes as a separate document.

Approvals

Faculty Graduate Studies Committee _____ Date July 29/10

Senate Graduate Studies Committee _____ Date Sep 15/10

Upon approval of the minor course change, the Dean of Graduate Studies office will consult with the department or school regarding other course attributes that may be required to enable the proper entry of the course change in the student record system

On-line Calendar

***KIN 870-3 Experiments and Models in Physiology**

Introduction to the basic principles of mathematical modeling of physiological systems and mathematical techniques that are commonly used in modeling. The course will provide students with an opportunity to learn and apply some of these techniques and to develop an appreciation for the utility of mathematical models, as well as limitations and potential pitfalls.

KIN 880-3 Internal Biomechanics

To relate the laws of mechanics to the function and structure of tissues and systems of the human body. Emphasis will be in relation to internal events occurring in normal and abnormal human states. Prerequisite: KIN 402.

KIN 885-3 Seminar on Human-Machine Systems

A study of the principles involved in integrating human capabilities into complex machine systems.

KIN 890-3 Engineering Aspects of Human Function

The application of engineering principles to the study of normal and abnormal human function.

KIN 898-6 MSc Thesis

KIN 899-6 PhD Thesis

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