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MEMORANDUM

ATTENTION	Senate	**DATE**	May 5, 2017
FROM	Mark Lechner, Acting Chair Senate Committee on Undergraduate Studies	**PAGES**	1/2
RE:	New Course Proposals (SCUS 17-21)		

For information:

Acting under delegated authority at its meeting of May 4, 2017 SCUS approved the following curriculum revisions effective Spring 2018.

a. Faculty of Applied Sciences (SCUS 17-21a)

1. Mechatronic Systems Engineering

(i) New Course Proposal: MSE 452-3, Power Conversion in Alternative Energy Systems (Summer 2018)

b. Faculty of Communication, Art and Technology (SCUS 17-21b)

1. School for the Contemporary Arts

(i) New Course Proposal:
- CA 306-3, Internship in Contemporary Arts I
- CA 152-3, Acting I, Thinking as an Artist (Fall 2018)
- CA 153-3, Acting II, Playing with Form (Spring 2019)

c. Faculty of Science (SCUS 17-21c)

1. Department of Biological Sciences

(i) New Course Proposals:
- BISC 412-3,Aquatic Ecology
- BISC 423-3, Developmental Neurobiology (Spring 2019)
- BISC 424-3, Applied Genomics (Spring 2019)

2. Faculty of Science

(i) New Course Proposal: SCI 301-3, Science Communication: An Introduction (Spring 2018)

SCUS 17 21.a

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT MSE **NUMBER** 452

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Power Conversion in Alternative Energy Systems

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Pwr Conv in Alt Energy Sys

CAMPUS where course will be normally taught: ☐ Burnaby ☑ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

Introduction to power conversion technologies in alternative energy systems. Main topics include: modern power semiconductors, circuit topologies, switching and control of power converters in alternative energy systems, power quality and grid integration, wind energy systems, solar energy systems, fuel cell systems and others. Prerequisite: MSE 353.

REPEAT FOR CREDIT ☐ YES ☑ NO How many times? ☐ Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

This course aims to enhance the current curriculum of the School of Mechatronic Systems Engineering (MSE) in the area of energy systems. It is designed to cover major topics on the front of electrical power and energy production and conversion in modern alternative energy systems. Prior to the introduction of this course, there is no course at SFU covering similar topics focusing on the electrical aspects of alternative energy systems, where there is a strong growth and need from industry both locally and internationally. The prerequisite of this course, MSE353, is offered as a third year core course which allows students to get a first touch of fundamentals on power electronics and electric machinery. Introduction of this new course as a fourth year elective provides students with the opportunity to learn more advanced and practical topics on modern power conversion technologies and their applications in various alternative energy systems such as solar and wind. To that end, the course supports the development of the energy systems discipline at MSE and SFU, which is also in accordance with demands from industry where a continuous growth in utilizing alternative energy sources has taken place over the past decade.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016): Summer 2018

Term in which course will typically be offered: ☐ Spring ☑ Summer ☐ Fall

Other *(describe)*:

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 40

UNITS

Indicate number of units: 3

Indicate no. of contact hours: 37.5 Lecture ____ Seminar ____ Tutorial 12 Lab ____ Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Jiacheng (Jason) Wang, Mehrdad Moallem, Ahmad Rad

WQB DESIGNATION

(attach approval from Curriculum Office)

n/a

PREREQUISITE AND / OR COREQUISITE

Prerequisite: MSE 353 Power Electronics and Electric Machinery

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

n/a

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

n/a

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

n/a

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

Students who took MSE 490 - Selected Topics in Mechatronic Systems Engineering: Power Conversion in Alternative Energy Systems in Summer 2014, 2015, 2016 or 2017 cannot take this course for further credit.

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☐ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

Upon successful completion of this course, students will:

Gain knowledge of electrical power and energy production with modern alternative energy systems;
Understand state-of-the-art power conversion configurations, operation methods, and use in alternative energy systems;
Analyze parameters and features of various power conversion systems, switching schemes, and control;
Analyze, model and design power conversion systems for different alternative energy systems;
Implement and verify operation and control of alternative energy systems with suitable engineering tools.

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

n/a

OTHER IMPLICATIONS

Final exam required ☑ YES ☐ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

Jiacheng (Jason) Wang

COURSE SUBJECT CA **NUMBER** 306-3

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Internship in Contemporary Arts I

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Internship I

CAMPUS where course will be normally taught: ☐ Burnaby ☐ Surrey ☑ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

This course is intended for advanced students to gain hands- on learning experience with an arts organization. This can include artist run centres, film festivals, media arts or performance venues, galleries, museums, and ar ts publications. The students time in the internship should total approximately 80 hours, to be carried out over t he course of a semester. Under the supervision of a faculty member, projects can involve research, writing, organizing events, curating exhibitions and programs, public relations, media production, archiving, and related activities. A written report is produced by the student at the conclusion of the internship

REPEAT FOR CREDIT ☑ YES ☐ NO Total completions allowed 2 Within a term? ☑ YES ☐ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

A 4 credit, 400-level internship course, CA 406, is already being offered and by adding a 3 credit, 300-level internship course provide s more opportunity for students to take the internship earlier in their degree, therefore having more experiential learning earlier in thei r academic career and to build on that experience throughout their degree.
Students can take CA 406 for repeat credit which makes it a challenge administratively, so this is a way to offer more experiential lear ning opportunities without having to repeat a course.
By offering CA 306 as a 3 credit course, it provides both students and internship host organizations more flexibility in the type of inte rnship opportunities which may allow for more internships in general.
There has been consistent enrollment in the CA 406 since Spring 2014.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016) Spring 2018

Term in which course will typically be offered ☑ Spring ☑ Summer ☑ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 15

UNITS

Indicate number of units: 3

Indicate no. of contact hours: Lecture Seminar Tutorial Lab 3 Other; explain below

OTHER

practicum

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Coordinated by the Professional Development Coordinator

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

45 Credits

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

OTHER IMPLICATIONS

Final exam required ☐ YES ☑ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

COURSE SUBJECT Theatre **NUMBER** CA 152-3

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation
Acting I: Thinking as an Artist

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation
Acting I: Thinking as an Artist

CAMPUS where course will be normally taught: ☐ Burnaby ☐ Surrey ☑ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.
The first of six Performance acting courses. The actor is trained as an individual artist within a collaborative ensemble, and within society. Emphasis is placed upon physical experience and imagination as sources for interpretation and original creation.

REPEAT FOR CREDIT ☐ YES ☑ NO How many times? Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES
NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

Since we began to admit students into the BFA Theatre Performance in first year during the 2013-14 academic year, our first year BFA cohort has attended a special section of CA 150 (Introduction to Acting) in the fall of the first year. This became confusing to students, and difficult to administer. CA 152 establishes a distinct first year fall term BFA cohort acting class. The subtitle - Thinking as an Artist - is the first of six descriptive subtitles for our cohort acting courses. The successive subtitles and descriptions describe an arc of performance training, and make explicit the distinctive focus of our program.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016) Fall 2018

Term in which course will typically be offered ☐ Spring ☐ Summer ☑ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☑ Required ☐ Elective

What is the probable enrollment when offered? Estimate: 20

UNITS

Indicate number of units: 3

Indicate no. of contact hours: Lecture Seminar Tutorial Lab 6 Other; explain below

OTHER

Studio

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

This course will be taught in rotation by our tenured or tenure-track faculty - Steven Hill, Ker Wells, and Cole Lewis.

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

By audition.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO
Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

OTHER IMPLICATIONS

Final exam required ☐ YES ☑ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

DD Kugler

COURSE SUBJECT Theatre **NUMBER** CA 153-3

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation
Acting II: Playing with Form

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation
Acting II: Playing with Form

CAMPUS where course will be normally taught: ☐ Burnaby ☐ Surrey ☑ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.
The second Performance acting course. Work focuses on a range of established dramatic forms and techniques, with and without text.

REPEAT FOR CREDIT ☐ YES ☑ NO How many times? Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES
NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

Since we began to admit students into the BFA Theatre Performance in first year during the 2013-14 academic year, our first year BFA cohort has attended a special topics acting course (CA 289) in the spring of the first year. This became confusing to students, and difficult to administer. CA 153 establishes a distinct first year spring term BFA cohort acting class. The subtitle - Playing with Form- is the second of six descriptive subtitles for our cohort acting courses. The successive subtitles and descriptions describe an arc of performance training, and make explicit the distinctive focus of our program.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016) Spring 2019

Term in which course will typically be offered ☑ Spring ☐ Summer ☐ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☑ Required ☐ Elective

What is the probable enrollment when offered? Estimate: 20

UNITS

Indicate number of units: 3

Indicate no. of contact hours: Lecture Seminar Tutorial Lab 6 Other; explain below

OTHER

Studio

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

This course will be taught in rotation by our tenured or tenure-track faculty - Steven Hill, Ker Wells, and Cole Lewis.

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

CA 152

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO
Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

STUDENTS WHO HAVE TAKEN FPA / CA 289 AS A SPECIAL TOPICS ACTING COURSE CANNOT TAKE THIS COURSE FOR FUTURE CREDIT.

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

OTHER IMPLICATIONS

Final exam required ☐ YES ☑ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

DD Kugler

SCUS 17-21c

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL
1 OF 4 PAGES

COURSE SUBJECT BISC **NUMBER** 412

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Aquatic Ecology

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Aquatic Ecology

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

The scientific study of marine and freshwater ecosystems. Through a combination of lecture and field/lab components, the course will examine a combination of fundamental concepts of aquatic ecology as well as challenges posed to these ecosystems by environmental change. Students will gain hands-on experience with data collection, analysis, and communication.

REPEAT FOR CREDIT ☐ YES ☑ NO How many times? ☐ Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

This course has been previously offered as a special topics course. Here we seek to regularize it. Once regularized, Aquatic Ecology will be added as a stream elective to the Ecology, Evolution, and Conservation (EEC) stream in Biological Sciences. Students in Biological Sciences are required to complete 5 lab courses; this course provides an additional lab option for our students.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016) SPRING 2018

Term in which course will typically be offered ☑ Spring ☐ Summer ☐ Fall

Other *(describe)*

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 48

UNITS

Indicate number of units: 3

Indicate no. of contact hours: 1 Lecture ☐ Seminar ☐ Tutorial 4 Lab ☐ Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Drs Jon Moore, Wendy Palen, Isabelle Cote, Nick Dulvy.

WQB DESIGNATION

(attach approval from Curriculum Office)

NA

PREREQUISITE AND / OR COREQUISITE

BISC 101, BISC 102, and either BISC 204 or GEOG 215; all with a grade of C- or better.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken *(place relevant course(s) in the blank below (ex: STAT 100))* **first** may not then take this course for further credit.

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(Place relevant course(s) in the blank below (ex: STAT 100)) will be accepted in lieu of this course.

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for *(place relevant course(s) in the blank below (ex: STAT 100))* may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

Students who have completed Special Topics BISC 473 Aquatic Ecology, may not repeat BISC 412 for further credit.

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☑ YES ☐ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

Students are expected to achieve the following learning objectives upon successful completion of the course:
- Explain basic research methodologies for aquatic ecology.
- Identify some local aquatic taxa.
- Describe life-cycle of several key aquatic taxa.
- Collect scientific data in a collaborative team.
- Manipulate, analyze, and interpret datasets.
- Construct scientific hypothesis and design project to address hypothesis.
- Illustrate effective communication of science.
- Explain link between science and several management or conservation challenges.

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

Laboratory space with basic equipment (i.e., microscopes) is available. The forms for course fees have been submitted.

OTHER IMPLICATIONS

Final exam required ☐ YES ☑ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

Jonathan Moore

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT BISC **NUMBER** 423

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Developmental Neurobiology

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Developmental Neurobiology

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

All aspects of neuronal development from the specification of neurons in the early embryo to the formation and maturation of neuronal circuits. Both invertebrate and vertebrate model organisms will be studied with emphasis on the molecular basis of nervous system development.

REPEAT FOR CREDIT ☐ YES ☑ NO How many times? ☐ Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES

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RATIONALE FOR INTRODUCTION OF THIS COURSE

BISC and MBB are working together to shift Developmental Neurobiology from MBB (MBB 444) to BISC (BISC 423). MBB has not offered this course in several years. In the meantime, BISC has twice offered a similar Special Topics course called Nervous System Development, that would be more appropriately titled Developmental Neurobiology. We will also be adding this as a stream elective for our CMP stream (Cells, Molecules, Physiology). BISC is committed to ensuring that BISC 423 Developmental Neurobiology will continue to be accessible to MBB and FHS students. BISC is coordinating with MBB on the course deletion form (MBB 444) and Program Change forms. FHS has already submitted forms to remove MBB 444 from their program options.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016): Spring 2019

Term in which course will typically be offered: ☑ Spring ☐ Summer ☐ Fall

Other *(describe)*:

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 40

UNITS

Indicate number of units: 3

Indicate no. of contact hours: 3 Lecture ___ Seminar 1 Tutorial ___ Lab ___ Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Drs Harald Hutter (BISC), Nancy Hawkins (MBB)

WQB DESIGNATION

(attach approval from Curriculum Office)

none

PREREQUISITE AND / OR COREQUISITE

Required: BISC 101, BISC 102, BISC 202, MBB 222, MBB 231; all with a grade of C- or better;
Recommended: BISC 333 or MBB 331.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

MBB 444 Developmental Neurobiology

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

Students who have taken Special Topics BISC 472 or 474 Nervous System Development may not take BISC 423 for further credit.

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

None

OTHER IMPLICATIONS

Final exam required ☑ YES ☐ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

Erin Barley

COURSE SUBJECT BISC **NUMBER** 424

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Applied Genomics

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Applied Genomics

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

The course provides an overview of "omics" methods in large-scale identification of gene functions in various organisms, and demonstrates how this knowledge can be applied in genomics fields, including plant and animal breeding.

REPEAT FOR CREDIT ☐ YES ☑ NO How many times? ☐ Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

This course has been taught as a special topics course and the department wishes to regularize it. The course will be added as a stream elective for our CMP (Cells, Molecules, Physiology) stream to increase upper division options, as recommended in our last Departmental External Review. The course will also contribute to course offerings in MBB's Genomics certificate.

Genomics technologies are increasingly being used in various disciplines of both basic and applied biological research. Genomics technologies have revolutionized not only the discovery of genes and gene variants behind human disease, but also fields such as functional genomics (large-scale elucidation of gene functions), agricultural breeding, ecology and environmental research, toxicology and pest management. Similarly, companies and non-profit institutes have emerged that provide various genomics services to customers and end users.

While some courses in the department discuss the use of genomics to answer specific questions (evolution in particular), there is currently no course in the department that focuses on genomics technologies and its various applications in basic and applied research. As a consequence, the majority of students that have taken this course as a special topics offering came with no understanding of the involved technologies, their applications, and the job opportunities that exist in both academia and industry. There is also evidence that this course has contributed to successful hires for example at the BC Genome Science Centre in Vancouver.

This course will be offered not only to BISC students, but also as part of the Genomics Certificate program in the Molecular Biology and Biochemistry (MBB) department. Existing genomics courses in MBB focuses on the application of genomics in human genetics, cancer biology, comparison and evolution of genomes, and bioinformatics. While there is inevitable overlap (for example, on how sequencing technologies work), the proposed course focuses on non-human genomics research, in particular plants. A component of this course, functional genomics, used to be taught by Dr. David Bailie in MBB. He is now retired, and this course therefore can fill a current gap in the MBB curriculum.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016): Spring 2019

Term in which course will typically be offered: ☑ Spring ☐ Summer ☐ Fall

Other *(describe)*:

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 30-60

UNITS

Indicate number of units: 3

Indicate no. of contact hours: 3 Lecture | Seminar | 1 Tutorial | Lab | Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Drs Jim Mattsson, Kathleen Fitzpatrick, Harald Hutter

WQB DESIGNATION

(attach approval from Curriculum Office)

none

PREREQUISITE AND / OR COREQUISITE

BISC 101, BISC 102, BISC 202, MBB 222, MBB 231, and either BISC 357 or MBB 331; all with a grade of C- or better.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

none

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

none

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

none

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

Students who have taken Special Topics BISC 471 Applied Genomics may not take BISC 424 for further credit.

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

See attached course outline with learning objectives

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

none

OTHER IMPLICATIONS

Final exam required ☑ YES ☐ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator

Erin Barley

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT SCI **NUMBER** 301

COURSE TITLE LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Science Communication: An Introduction

COURSE TITLE SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Science Communication

CAMPUS where course will be normally taught: ☑ Burnaby ☐ Surrey ☐ Vancouver ☐ Great Northern Way ☐ Off campus

COURSE DESCRIPTION — 50 words max. Attach a course outline. Don't include WQB or prerequisites info in this description box.

As the role of science in society grows, so too does the need for effective science communication. Students will explore why we communicate science, the importance of knowing your audience, and best practices for a range of science communication approaches from traditional media, face to face, to online.

REPEAT FOR CREDIT ☐ YES ☑ NO How many times? ☐ Within a term? ☐ YES ☐ NO

LIBRARY RESOURCES

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by the email that serves as proof of assessment. For more information, please visit www.lib.sfu.ca/about/overview/collections/course-assessments.

RATIONALE FOR INTRODUCTION OF THIS COURSE

Science plays a role in all of our lives, and increasingly is key in many important societal decisions around for example food, energy, water, environment, medicine, transportation, and mitigating natural hazards and impacts of climate change. While communicating with our peers has always been important in science, we must increasingly also communicate externally - to the public, whether to youth, local communities, policy makers, or the general public. As scientists, we have a responsibility to communicate what we do, why we do it, why it matters, and the benefits in ways that are as clear, effective and useful as possible, tailored for specific situations.

SFU is an engaged university. Our students avail of many opportunities to interact with communities both locally and further afield, whether through experiential learning situations, work terms or coops. Many engage in volunteer opportunities such as science outreach to youth, or community events, and most wish to make a difference to the world we live in. For all of these, an understanding and awareness of what effective science communication is, the different approaches, understanding the audience, the best practices in communicating in different formats, and the skills associated, would be beneficial. While many of our science faculty members model excellent science communication, for example through radio interviews, blogs, websites, public talks, etc, providing an opportunity to explicitly introduce students to science communication not only shows that the culture of the Faculty of Science is one where we value reaching out to the public about our science but also that we wish to empower our students to communicate their science as effectively as possible when they need to.

The SCI 301 course is for students pursuing a B.Sc. degree. It will introduce them to skills, approaches and practices to communicate science, which will be advantageous in their roles as future scientists, and increase their awareness of potential career opportunities as science communicators.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016): Spring 2018

Term in which course will typically be offered: ☐ Spring ☐ Summer ☑ Fall

Other *(describe)*:

Will this be a required or elective course in the curriculum? ☐ Required ☑ Elective

What is the probable enrollment when offered? Estimate: 50 - 100

UNITS

Indicate number of units: 3

Indicate no. of contact hours: 3 Lecture | Seminar | 1 Tutorial | Lab | Other; explain below

OTHER

FACULTY

Which of your present CFL faculty have the expertise to offer this course?

Eileen van der Flier-Keller (EASC), Glyn Williams-Jones (EASC), Zamir Punja (BISC), Isabelle Côté (BISC), Uwe Kreis (CHEM)

WQB DESIGNATION

(attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

60 units towards a B.Sc. degree or permission of instructor.

EQUIVALENT COURSES [For more information on equivalency, see Equivalency Statements under Information about Specific Course components.]

1. SEQUENTIAL COURSE [is not hard coded in the student information management system (SIMS).]

Students who have taken (*place relevant course(s) in the blank below (ex: STAT 100)*) **first** may not then take this course for further credit.

2. ONE-WAY EQUIVALENCY [is not hard coded in SIMS.]

(*Place relevant course(s) in the blank below (ex: STAT 100)*) will be accepted in lieu of this course.

3. TWO-WAY EQUIVALENCY [is hard coded and enforced by SIMS.]

Students with credit for (*place relevant course(s) in the blank below (ex: STAT 100)*) may not take this course for further credit.

Does the partner academic unit agree that this is a two-way equivalency? ☐ YES ☐ NO

Please also have the partner academic unit submit a course change form to update the course equivalency for their course(s).

4. SPECIAL TOPICS PRECLUSION STATEMENT [is not hard coded in SIMS.]

FEES

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

RESOURCES

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

OTHER IMPLICATIONS

Final exam required ☑ YES ☐ NO

Criminal Record Check required ☐ YES ☑ NO

OVERLAP CHECK

Checking for overlap is the responsiblity of the Associate Dean.

Each new course proposal must have confirmation of an overlap check completed prior to submission to the Faculty Curriculum Committee.

Name of Originator