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## MEMORANDUM

<b>ATTENTION</b>	Senate	<b>DATE</b>	June 3, 2016
<b>FROM</b>	Andrew Gemino, Acting Chair	<b>PAGES</b>	1/2
<b>RE:</b>	Senate Committee on Undergraduate Studies Faculty of Science (SCUS 16-22)		

For information:

Acting under delegated authority at its meeting of June 2, 2016 SCUS approved the following curriculum revisions effective Spring 2017.

1. Department of Biological Sciences (SCUS 16-22a)
  - (i) Deletion of BISC 304, 304W
  - (ii) Prerequisite change for BISC 407, 410
2. Department of Chemistry (SCUS 16-22b)
  - (i) Lower division requirement changes to the Chemistry Honours program
3. Department of Mathematics (SCUS 16-22c)
  - (i) Description change for MACM 401
4. Department of Statistics and Actuarial Science (SCUS 16-22d)
  - (i) Prerequisite change for STAT 300W
  - (ii) Upper and lower division requirement changes to the Statistics Major and Honours programs
5. Department of Molecular Biology and Biochemistry (SCUS 16-22e)
  - (i) New Course Proposals:
    - MBB 301-3, Bioscience of Science Fiction and B-Sci/B-Hum designations (Fall 2017)
    - MBB 433-3, Epithelial Cell Biology
    - MBB 464-3, From Genome to System
  - (ii) Deletion of MBB 437, 435, 442



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**MEMORANDUM**

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<b>ATTENTION</b>	Senate Committee for Undergraduate Studies, SFU	<b>DATE</b>	May 20, 2016
<b>FROM</b>	Carl Lowenberger, Chair, Science UCC		
<b>RE:</b>	Submission of Undergraduate Curriculum Business from the Faculty of Science for inclusion on the Agenda of the June 2016 SCUS Meeting		

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**BIOLOGICAL SCIENCES**

- Motion 1: BISC 304 – Course deletion
- Motion 2: BISC 304W – Course deletion
- Motion 3: BISC 407 – Course prerequisite change
- Motion 4: BISC 410 – Course Prerequisite change

**CHEMISTRY**

- Motion 1: Chemistry Honours program change

**MATHEMATICS**

- Motion 1: MACM 401 – Course description change

**STATISTICS AND ACTUARIAL SCIENCE**

- Motion 1: STAT 300W – Course prerequisites change
- 
- Motion 3: STAT Major and Honours programs changes

**MOLECULAR BIOLOGY AND BIOCHEMISTRY (MBB)**

- Motion 1: MBB 301B – New Course proposal
- Motion 2: MBB 433 – New Course proposal
- Motion 3: MBB 464 – New Course proposal
- Motion 4: MBB 437 – Course deletion
- Motion 5: MBB 435 – Course deletion
- Motion 6: MBB 442 – Course deletion
- Motion 7: CMPT-MBB JMA program change (already gone through FAS)

Erin Barley  
Senior Lecturer  
Chair, DUCC  
Dept Biological Sciences

Simon Fraser University  
Department of Biological  
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May 8, 2016

ATTENTION: Carl Lowenberger,  
Associate Dean, Faculty of Science

RE: Deletion of Animal Ecology (BISC 304W) and related course changes.

**Motion 1:** To delete BISC 304 (Animal Ecology) from the course calendar.

**Rationale.** BISC 304 (Animal Ecology) is being deleted as part of a curricular change that includes a shift away from organism based courses (BISC 304 Animal Ecology, BISC 404 Plant Ecology) to concept based courses (BISC 420 Community Ecology and Macroecology, and BISC 360 Techniques in Ecology and Evolution).

**Motion 2:** To change the pre-requisites for BISC 407 (Population Dynamics).

*Current:* BISC 304 or 404 with a grade of C- or better.

*Proposed:* BISC 102, and either BISC 204 or GEOG 215, all with a grade of C- or better.

**Rationale:** BISC 304 (Animal Ecology) and BISC 404 (Plant Ecology) have or will be discontinued and replaced by BISC 360 (Techniques in Ecology and Evolution). Ecology (BISC 204) is a sufficient pre-requisite. GEOG 215 (taken by FENV students) combined with BISC 102 (which is a pre-req of BISC 204, but not GEOG 215) together are also considered a sufficient pre-requisite.

**Motion 3:** To change the pre-requisites for BISC 410 (Behavioral Ecology).

*Current.* BISC 304 or permission of the department.

*Proposed:* BISC 102, and either BISC 204 or GEOG 215, all with a grade of C- or better.

**Rationale:** BISC 304 (Animal Ecology) and BISC 404 (Plant Ecology) have or will be discontinued and replaced by BISC 360 (Techniques in Ecology and Evolution). Ecology (BISC 204) is a sufficient pre-requisite. GEOG 215 (taken by FENV students) combined with BISC 102 (which is a pre-req of BISC 204, but not GEOG 215) together are also considered a sufficient pre-requisite.

Sincerely,  
Erin Barley



COURSE SUBJECT  NUMBER  TITLE

**INSTRUCTIONS (OVERALL):**

1. Rationale must be included.
2. Indicate term = Fall, Spring, Summer

**RATIONALE**

Animal Ecology BISC 304 (with and without W designation) is being deleted as part of a curricular change that includes a shift away from organism based courses (Animal Ecology BISC 304W, Plant Ecology BISC 404W) to concept based courses (Community Ecology and Macroecology BISC 420, and Techniques in Ecology and Evolution BISC 360).

**EFFECTIVE TERM AND YEAR, FOR CHANGES**

Fall, Spring, Summer and year (enter in textbox)

**CHECK THE FOLLOWING:**

- Did you conduct program impact analysis for this course?  
**Program impact analysis** is reviewing the effect of a course deletion on program requirements. Academic units can contact the Senate and Academic Services Office (sfucal@sfu.ca) for a program impact report.
  
- Did you conduct course impact analysis for this course?  
**Course impact analysis** is reviewing the effect of a course number change and/or course deletion on course prerequisites. For instructions on how to do a course impact analysis, please go here: <https://www.sfu.ca/senate/senate-committees/scus/ugrad-curriculum/courses.html#steps> and click on "deleting a course" and review Step 2. Course Impact Analysis.



**COURSE SUBJECT**  **NUMBER**  **TITLE**

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**INSTRUCTIONS (OVERALL):**

- 1. Rationale must be included.
- 2. Indicate term = Fall, Spring, Summer

**RATIONALE**

Animal Ecology BISC 304W (with and without W designation) is being deleted as part of a curricular change that includes a shift away from organism based courses (Animal Ecology BISC 304W, Plant Ecology BISC 404W) to concept based courses (Community Ecology and Macroecology BISC 420, and Techniques in Ecology and Evolution BISC 360).

**EFFECTIVE TERM AND YEAR, FOR CHANGES**

Fall, Spring, Summer and year (enter in textbox)

COURSE SUBJECT  NUMBER  TITLE

**TYPE OF CHANGES.** Please type 'X' for the appropriate revision(s):

	Course number		Credit		Title		Description	X	Prerequisite
--	---------------	--	--------	--	-------	--	-------------	---	--------------

**WORDING/DESCRIPTION EDITS.** Indicate deleted or changed text using strike through, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand.

Prerequisite: ~~BISC 304 or 404 with a grade of C- or better.~~ BISC 102, and either BISC 204 or GEOG 215.

**EFFECTIVE TERM AND YEAR FOR CHANGES**

Fall, Spring, Summer and year (please enter in textbox)

Spring 2017

**RATIONALE** (must be included)

BISC 304 (Animal Ecology) and BISC 404 (Plant Ecology) have or will be discontinued and replaced by BISC 360 (Techniques in Ecology and Evolution). Ecology (BISC 204) is a sufficient pre-requisite. GEOG 215 (taken by FENV students) combined with BISC 102 (which is a pre-req of BISC 204, but not GEOG 215) together are also considered a sufficient pre-requisite.

COURSE SUBJECT  NUMBER  TITLE

**TYPE OF CHANGES.** Please type 'X' for the appropriate revision(s):

	Course number		Credit		Title		Description	X	Prerequisite
--	---------------	--	--------	--	-------	--	-------------	---	--------------

**WORDING/DESCRIPTION EDITS.** Indicate deleted or changed text using strike through, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand.

Corequisite: BISC 304 or permission of the department. Pre-requisite: BISC 102, and either BISC 204 or GEOG 215.

**EFFECTIVE TERM AND YEAR FOR CHANGES**

Fall, Spring, Summer and year (please enter in textbox)

Spring 2017

**RATIONALE** (must be included)

BISC 304 (Animal Ecology) and BISC 404 (Plant Ecology) have or will be discontinued and replaced by BISC 360 (Techniques in Ecology and Evolution). Ecology (BISC 204) is a sufficient pre-requisite. GEOG 215 (taken by FENV students) combined with BISC 102 (which is a pre-req of BISC 204, but not GEOG 215) together are also considered a sufficient pre-requisite.

**Calendar Entry Change**

**Name of Program or Name of Faculty CHEM HONOURS**

Rationale for change:

PHYS 255 is deemed more relevant to students in CHEM Honours than PHYS 211. In addition, PHYS 255 has been made a co-requisite for PHYS 231, which is required for the chemistry honours program

Effective term and year:

2017-1

The following program(s) will be affected by these changes:

CHEM Honours

**Calendar Change:** "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample~~. All additions should be marked by a **bold**.

**Lower Division Requirements**

Students complete 62-63 units, including all of  
 CHEM 121 - General Chemistry and Laboratory I (4)  
 CHEM 122 - General Chemistry II (2)  
 CHEM 126 - General Chemistry Laboratory II (2)  
 CHEM 215 - Introduction to Analytical Chemistry (4)  
 CHEM 230 - Inorganic Chemistry (3)  
 CHEM 236W - Inorganic Chemistry Laboratory (3)  
 CHEM 260 - Atoms, Molecules, Spectroscopy (4)  
 CHEM 266 - Physical Chemistry Laboratory I (2)  
 CHEM 281 - Organic Chemistry I (4)  
 CHEM 283 - Organic Chemistry IIb (3)  
 CHEM 286 - Organic Chemistry Laboratory II (2)  
 MATH 152 - Calculus II (3)  
 MATH 251 - Calculus III (3)  
 MBB 222 - Molecular Biology and Biochemistry (3)  
~~PHYS 211 - Intermediate Mechanics (3)~~  
**Phys 255 - Vibrations and Waves**  
 PHYS 231 - Physics Laboratory II (3)



COURSE SUBJECT  NUMBER  TITLE

**TYPE OF CHANGES.** Please type 'X' for the appropriate revision(s):

	Course number	Credit	Title	X	Description	Prerequisite
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**WORDING/DESCRIPTION EDITS.** Indicate deleted or changed text using strike through, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand.

~~A first course in computer algebra also called symbolic computation. It covers data structures and algorithms for mathematical objects, including polynomials, general mathematical formulae, long integer arithmetic, polynomial greatest common divisors, the Risch integration algorithm. Other topics include symbolic differentiation, simplification of formulae, and polynomial factorization. Students will learn Maple for use on assignments.~~  
Data structures and algorithms for mathematical objects. Topics include long integer arithmetic, computing polynomial greatest common divisors, the fast Fourier transform, Hensel's lemma and p-adic methods, differentiation and simplification of formulae, and polynomial factorization. Students will use a computer algebra system such as Maple for calculations and programming.

**EFFECTIVE TERM AND YEAR FOR CHANGES**

Fall, Spring, Summer and year (please enter in textbox)

**RATIONALE** (must be included)

A general update of the topics being covered, to reflect recent developments. In particular, the material on the Risch integration algorithm is too difficult for most undergraduate students and is replaced with the fast Fourier transform.



MEMO

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<b>ATTENTION: Kathryn White, Coordinator Academic Programs</b>	
<b>FROM: Sadika Jungic, Manager Academic and Administrative Services</b>	<b>TEL: 23665</b>
<b>RE: Stistics Program Changes; New Statistics Courses</b>	
<b>Department of Statistics &amp; Actuarial Science</b>	
<b>DATE: May 9, 2016</b>	

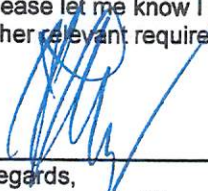
Hi Kathryn,

Please find attached the following material to be considered for the May FS UCC meeting:

1. **STAT 300W** Course Pre-requisite Change – Approved at the department meeting held on January 15, 2016
2. **STAT 452** New Course: Introduction to Statistical Learning and Prediction – Approved at the department meeting held on December 11, 2015
3. **STAT Major and Honours Program Changes** – Adding new courses; Introducing an alternative to a required minor; Changing the number of the units required – Approved by an e-vote conducted April 14 to 16, 2016.

It's not clear whether a course overlap check has been exercised for STAT 452.

Please let me know if you have any questions on this matter or if there are any other relevant requirements at this time.




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Regards,  
Sadika Jungic, Manager  
Academic and Administrative Services  
Department of Statistics and Actuarial Science

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Fax 778-782-4368  
Room #10543 SSC  
<http://www.stat.sfu.ca/>  
email: [sjungic@sfu.ca](mailto:sjungic@sfu.ca)

COURSE SUBJECT  NUMBER  TITLE

**TYPE OF CHANGES.** Please type 'X' for the appropriate revision(s):

	Course number		Credit		Title		Description	x	Prerequisite
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**WORDING/DESCRIPTION EDITS.** Indicate deleted or changed text using strike through, indicate added or new text using underline. If you need to enter more text than the box allows, drag the endpoint of the text box to make it bigger, as it will not automatically expand.

Admission to the major or honors programs in statistics or actuarial science at SFU. ~~Corequisite: STAT 350.~~ Prerequisite: Prior completion of a lower division W requirement and STAT 350 or 9 units of upper division STAT/ACMA courses and permission of the instructor.

**EFFECTIVE TERM AND YEAR FOR CHANGES**

Fall, Spring, Summer and year (please enter in textbox)

Spring 2017

**RATIONALE** (must be included)

The current co-requisite for this course, STAT 350, does not provide a broad enough background in statistics for students attending this course. The strengthened prerequisites will remedy this problem. This change of prerequisites will not affect other departments since only our students may take this course.



**Calendar Entry Change: *Statistics Major***

**Name of Program or Name of Faculty: *Faculty of Science***

Rationale for change:

- Adding new courses created for the STAT programs, removing old courses, correcting total units required.
- Obtaining 12 upper division units in disciplines other than Statistics and/or Mathematics is proposed as an alternative to a required minor in another discipline.
- STAT 403, as per its Calendar course description, cannot be counted towards the requirement: ... and an additional 12 units in 400-level STAT courses.
- Removing non-existent courses

Effective term and year: **Spring 2017**

The following program(s) will be affected by these changes:

**Calendar Change:** “to” and “from” sections are not required. All deletions should be crossed out as follows: ~~sample~~. All additions should be marked by a **bold**.

Credit for Statistics Courses

Credit for STAT courses depends on the order in which the courses are completed. There are three kinds of courses:

Introductory course (STAT 100)

Service courses (STAT 101, 201, 203, ~~301~~, 302, 305, 403)

Mainstream courses (STAT 270, 285, 300W, 330, ~~340~~, **341, 342**, 350, 380, 410, 430, 445, 450, 460, 475, 485)

Program Requirements

Lower Division Requirements

Students complete a total minimum of 21-22 units, including one of the following courses:

**one of**

CMPT 125 - Introduction to Computing Science and Programming II (3)

CMPT 126 - Introduction to Computing Science and Programming (3)

**CMPT 129 - Introduction to Computing Science and Programming for Mathematics and Statistics (3)**

and one of

MATH 150 - Calculus I with Review (4)

MATH 151 - Calculus I (3)

MATH 154 - Calculus I for the Biological Sciences (3)

MATH 157 - Calculus I for the Social Sciences (3)

and one of

MATH 152 - Calculus II (3)

MATH 155 - Calculus II for the Biological Sciences (3)

MATH 158 - Calculus II for the Social Sciences (3)

**and**

**STAT 180 - Career Development Seminar for Statistics and Actuarial Science (1)**

and one of

MATH 232 - Applied Linear Algebra (3)

MATH 240 - Algebra I: Linear Algebra (3) \*

and all of

MATH 251 - Calculus III (3)

**STAT 240 - Introduction to Data Science (3)**

STAT 270 - Introduction to Probability and Statistics (3)

STAT 285 - Intermediate Probability and Statistics (3)

\* recommended

Upper Division Requirements

Students complete a total of 30 units, including all of the following courses:

STAT 330 - Introduction to Mathematical Statistics (3)

~~STAT 340 - Introduction to Statistical Computing and Exploratory Data Analysis (3)~~

**STAT 341 - Introduction to Statistical Computing and Exploratory Data Analysis - R (2)**

**STAT 342 - Introduction to Statistical Computing and Exploratory Data Analysis - SAS (2)**

STAT 350 - Linear Models in Applied Statistics (3)

and an additional 12 units in 400-level STAT courses (**excluding 403**)

**and 9** ~~nine~~ additional upper division ACMA, MACM, MATH or STAT units (excluding STAT 301, 302, 305, 403). Consult an advisor before selecting these courses. The following are recommended.

MACM 316 - Numerical Analysis I (3)

STAT 300W - Statistics Communication (3)

STAT 380 - Introduction to Stochastic Processes (3)

STAT 410 - Statistical Analysis of Sample Surveys (3) \*

STAT 430 - Statistical Design and Analysis of Experiments (3) \*

**STAT 440 - Learning from Big Data (3)**

STAT 445 - Applied Multivariate Analysis (3)

STAT 450 - Statistical Theory (3) \*

STAT 460 - Bayesian Statistics (3)

STAT 475 - Applied Discrete Data Analysis (3)

STAT 485 - Applied Time Series Analysis (3)

STAT 490 - Selected Topics in Probability and Statistics (3)

STAT 495 - Directed Studies in Probability and Statistics (3)

\* Stat 450 and at least one of Stat 410 or 430 are recommended for students who may wish to seek accreditation with the Statistical Society of Canada.



Minor Program Requirement

Students complete a minor in a discipline other than statistics **or 12 upper division units outside of MATH or STAT courses**. The certificate in actuarial mathematics may fulfil this requirement.



**Calendar Entry Change: *Statistics Honours***

**Name of Program or Name of Faculty: *Faculty of Science***

Rationale for change:

- Adding new courses created for the STAT programs, removing old ones.
- Obtaining 12 upper division units in disciplines other than Statistics and/or Mathematics is proposed as an alternative to a required minor in another discipline.
- The Faculty of Science's requirement for total units and total upper division units is updated.
- Removing non-existent courses

Effective term and year: **Spring 2017**

The following program(s) will be affected by these changes: **None.**

**Calendar Change:** "to" and "from" sections are not required. All deletions should be crossed out as follows: ~~sample~~. All additions should be marked by a **bold**.

Credit for Statistics Courses

Credit for STAT courses depends on the order in which the courses are completed. There are three kinds of courses:

introductory course STAT 100

service courses STAT 101, 201, 203, ~~301~~, 302, 305, 403

mainstream courses STAT 270, 285, 300W, 330, ~~340~~, **341, 342**, 350, 380, 410, 430, 445, 450, 460, 475, 485

Program Requirements





Students complete 132 units, as specified below.

Lower Division Requirements

Students complete a total of ~~24-25~~ units, including one of the following courses:

**one of**

CMPT 125 - Introduction to Computing Science and Programming II (3)

CMPT 126 - Introduction to Computing Science and Programming (3)

**CMPT 129 - Introduction to Computing Science and Programming for Mathematics and Statistics (3)**

and one of

MATH 150 - Calculus I with Review (4)

MATH 151 - Calculus I (3)

MATH 154 - Calculus I for the Biological Sciences (3)

MATH 157 - Calculus I for the Social Sciences (3)

and one of

MATH 152 - Calculus II (3)

MATH 155 - Calculus II for the Biological Sciences (3)

MATH 158 - Calculus II for the Social Sciences (3)

**and:**

**STAT 180 - Career Development Seminar for Statistics and Actuarial Science (1)**

and one of

MATH 232 - Applied Linear Algebra (3)

MATH 240 - Algebra I: Linear Algebra (3) \*

and all of

MATH 242 - Introduction to Analysis I (3)

MATH 251 - Calculus III (3)

**STAT 240 - Introduction to Data Science (3)**

STAT 270 - Introduction to Probability and Statistics (3)

STAT 285 - Intermediate Probability and Statistics (3)

\* recommended

Upper Division Requirements

Students complete a total of 42 units, including all of the following courses:

MATH 320 - Introduction to Analysis II (3)

MATH 322 - Complex Variables (3)

STAT 330 - Introduction to Mathematical Statistics (3)

~~STAT 340 - Introduction to Statistical Computing and Exploratory Data Analysis (3)~~

**STAT 341 - Introduction to Statistical Computing and Exploratory Data Analysis - R (2)**

**STAT 342 - Introduction to Statistical Computing and Exploratory Data Analysis - SAS (2)**

STAT 350 - Linear Models in Applied Statistics (3)

STAT 380 - Introduction to Stochastic Processes (3)

STAT 410 - Statistical Analysis of Sample Surveys (3)\*

STAT 430 - Statistical Design and Analysis of Experiments (3)\*

STAT 450 - Statistical Theory (3)\*

STAT 460 - Bayesian Statistics (3)

STAT 475 - Applied Discrete Data Analysis (3)

\* recommended

and 9 nine additional units in upper division ACMA, MACM, MATH or STAT courses (excluding STAT 301, 302, 305, 403). Consult an advisor before selecting these courses. The following are recommended.

MACM 316 - Numerical Analysis I (3)

STAT 300W - Statistics Communication (3)

**STAT 440 - Learning from Big Data (3)**

STAT 445 - Applied Multivariate Analysis (3)

STAT 485 - Applied Time Series Analysis (3)

STAT 490 - Selected Topics in Probability and Statistics (3)

STAT 495 - Directed Studies in Probability and Statistics (3)



Minor Program Requirement

Students complete a minor in a discipline other than statistics **or 12 upper division units outside of MATH or STAT courses.** The certificate in actuarial mathematics may fulfil this requirement.

MEMO

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ATTENTION <b>Carl Loweberger, Associate Dean of Science</b>	TEL
BB	
FROM <b>Ingrid Northwood, MBB undergraduate Curriculum Committee Chair</b>	
RE <b>Proposed agenda items to , FOSUCC meeting</b>	
DATE <b>May 20, 2016</b>	

At it's meeting of March 5, 2016, the MBB department approved the following curricular program changes:

**1: Three new course proposals**

- MBB 301 - Biological Science of Science Fiction
- MBB 433 – Epithelial Cell Biology
- MBB 464 – From Genome to System

**2: Three course deletions**

- MBB 437 – Special Topics in Signal Transduction
- MBB 435 – Genome Biology
- MBB 442 - Proteomics

**3: A program change to the CMPT-MBB JMA that has already gone through the Faculty of Applied Science**

Please place these proposals on the agenda of the next meeting of the Faculty of Science Undergraduate Studies Curriculum Committee

COURSE SUBJECT NUMBER **COURSE TITLE**

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

**AND**

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

CAMPUS where course will be normally taught:  Burnaby  Surrey  Vancouver  Great Northern Way  Off campus**COURSE DESCRIPTION (FOR CALENDAR). 50 WORDS MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL**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 a library report and, if appropriate, confirmation that funding arrangements have been addressed.

Library report status, see [lib.sfu.ca/collections/course-assessments](http://lib.sfu.ca/collections/course-assessments) **RATIONALE FOR INTRODUCTION OF THIS COURSE**

If more space is needed, please use the provided text box on page 4 of this document

**SCHEDULING AND ENROLLMENT INFORMATION**Term and year course would first be offered (e.g. FALL 2014) Term(s) in which course will typically be offered  Spring  Summer  Fall Other (describe) Will this be a required or elective course in the curriculum?  Required  ElectiveWhat is the probable enrollment when offered? Estimate:



**UNITS**

Indicate number of units:

Indicate no. of contact hours for:  Lecture  Seminar  Tutorial  Lab  Other – please explain

**OTHER**

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

Irina Kovalyova

**WQB DESIGNATION** (attach approval from Curriculum Office)

This is a Science Breadth Course AND a Humanities Breadth course

**PREREQUISITE AND / OR COREQUISITE**

minimum of 30 units

**EQUIVALENT COURSES**

Does this course replicate the content of a previously-approved course to such an extent that students should not receive credit for both courses?

no

**COURSE - LEVEL EDUCATIONAL GOALS (OPTIONAL)**

**FEES**

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



**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 responsibility 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**

Ingrid Northwood



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**MEMORANDUM**

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**ATTENTION** Carl Lowenberger, Associate Dean,  
Faculty of Science

**DATE** May 3, 2016

**FROM** Susan Rhodes, Director  
University Curriculum & Institutional Liaison

**PAGES** 1

**RE:** MBB Breadth designations approval

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The University Curriculum Office has reviewed and approved **B-Sci and B-Hum** designations for the following proposed Molecular Biology and Biochemistry course, effective Spring 2017 (1171):

MBB 301-3 Biological Science in Science Fiction

Please forward this memo to your Faculty UCC and then on to SCUS and Senate for further approval.

cc: Ingrid Northwood, Undergraduate Program Coordinator, Molecular Biology and Biochemistry



COURSE SUBJECT NUMBER 

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

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

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.

Emerging concepts in epithelial cell biology, including the establishment and maintenance of epithelial cell polarity and cell adhesion leading to the sculpting of developing organisms, roles in wound healing, birth defects and microbial defense, and insights into the maintenance of epithelia by stem cells will be explored.

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](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

Library review done? 

## RATIONALE FOR INTRODUCTION OF THIS COURSE

The MBB department reviewed all current 400 level courses to identify areas of duplication and areas of omission and determined that an advanced cell and developmental course would benefit our students. This course was beta tested in Spring of 2015 and well received by students.



SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2016) Spring 2017

Term in which course will typically be offered [X] Spring [ ] Summer [ ] Fall

Other (describe)

Will this be a required or elective course in the curriculum? [ ] Required [X] Elective

What is the probable enrollment when offered? Estimate: 50

UNITS

Indicate number of units: 3

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

OTHER

[Empty box for other information]

FACULTY

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

Nicholas Harden, Esther Verheyen, Nancy Hawkins

WQB DESIGNATION

(attach approval from Curriculum Office)

[Empty box for WQB designation]

PREREQUISITE AND / OR COREQUISITE

Prerequisite of MBB 331 or BISC 333

EQUIVALENT COURSES

Does this course replicate the content of a previously-approved course to such an extent that students should not receive credit for both courses?

no



**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 responsibility 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**

Ingrid Northwood

COURSE SUBJECT NUMBER 

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

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

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.

Methods that enable the integration of Biochemical, Genetic and Genomic knowledge (BiGG) to reconstruct a genomic scale network that defines the metabolic physiology of an organism will be explored. Applications of these approaches in the fields of microbial evolution, interaction networks, genetic engineering and drug discovery will be discussed

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](http://www.lib.sfu.ca/about/overview/collections/course-assessments).

Library review done? 

## RATIONALE FOR INTRODUCTION OF THIS COURSE

Genomics / Bioinformatics is an exploding field and the MBB department is fortunate enough to have a strong core group of Research Faculty in these cutting edge disciplines. This has allowed us to create a very popular Certificate in Genomics. Two of the courses in the Certificate are no longer offered: MBB 435 (faculty retirement) and MBB 442 (to incorporation of material into other courses). MBB 464 has been created to introduce important material not covered in our other Genomics/Bioinformatics courses and can also be counted toward the Certificate in Genomics.

**SCHEDULING AND ENROLLMENT INFORMATION**

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

FALL 2017

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

Tutorial

1

Lab

Other; explain below

**OTHER****FACULTY**

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

Frederic Pio, Fiona Brinkman, Ryan Morin, Rob Holt

**WQB DESIGNATION**

(attach approval from Curriculum Office)

**PREREQUISITE AND / OR COREQUISITE**

prerequisites are MBB 331 and MBB342

**EQUIVALENT COURSES**

Does this course replicate the content of a previously-approved course to such an extent that students should not receive credit for both courses?

no



**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 responsibility 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**

Ingrid Northwood



COURSE SUBJECT  NUMBER  TITLE

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**INSTRUCTIONS (OVERALL):**

1. Rationale must be included.
2. Indicate term = Fall, Spring, Summer

**RATIONALE**

The content of this course had significant overlap with MBB402 and is therefore no longer required

**EFFECTIVE TERM AND YEAR, FOR CHANGES**

Fall, Spring, Summer and year (enter in textbox)



COURSE SUBJECT  NUMBER  TITLE

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**INSTRUCTIONS (OVERALL):**

- 1. Rationale must be included.
- 2. Indicate term = Fall, Spring, Summer

**RATIONALE**

The course creator and instructor of MBB 435 - Genome Biology - has retired and the material has been moved into other genomics and bioinformatics courses

**EFFECTIVE TERM AND YEAR, FOR CHANGES**

Fall, Spring, Summer and year (enter in textbox)





**COURSE SUBJECT**  **NUMBER**  **TITLE**

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**INSTRUCTIONS (OVERALL):**

- 1. Rationale must be included.
- 2. Indicate term = Fall, Spring, Summer

**RATIONALE**

The material that was in MBB442 - Proteomics - has been redistributed to other genomics and bioinformatics courses

**EFFECTIVE TERM AND YEAR, FOR CHANGES**

Fall, Spring, Summer and year (enter in textbox)