SFU OFFICE OF THE ASSOCIATE VICE-PRESIDENT, ACADEMIC

8888 University Drive,
Burnaby, BC
Canada V5A 1S6

TEL: 778.782.4636
FAX: 778.782.5876

avpcio@sfu.ca
www.sfu.ca/vpacademic

MEMORANDUM

ATTENTION	Senate	**DATE**	December 4, 2015
FROM	Gordon Myers, Chair Senate Committee on Undergraduate Studies	**PAGES**	1/2
RE:	Faculty of Science		

For information:

Acting under delegated authority at its meeting of December 3, 2015 SCUS approved the following curriculum revisions effective Fall 2016.

1. Department of Earth Sciences (REVISED SCUS 15-36b)

   (i) Prerequisite change to EASC 405

2. Department Statistics and Actuarial Science (SCUS 15-42a)

   (i) New Course Proposals:
   - STAT 180-1, Career Development Seminar for Statistics and Actuarial Science
   - STAT 240-3, Introduction to Data Science (effective Spring 2017)
     - Q designation for STAT 240
   - STAT 440-3, Learning from Big Data (effective Spring 2017)

3. Department of Physics (SCUS 15-42b)

   (i) Co-requisite change for PHYS 125 and 126
   (ii) Description and prerequisite change for PHYS 365
   (iii) Prerequisite change to PHYS 384

4. Department of Biological Sciences (SCUs 15-42c)

(i) New Course Proposal: BISC 308-3, Environmental Toxicology: An Ecological Perspective
(ii) Title, description and prerequisite change for BISC 313
(iii) Upper and lower division requirement changes to the Environmental Toxicology Minor program

5. Department of Molecular Biology and Biochemistry (SCUS 15-42d)

(i) Upper division requirement changes to the Major and Honour programs
(ii) Lower division requirement changes to the Chemistry and Molecular Biology and Biochemistry Joint Major and Joint Honours programs
(iii) Requirement changes to the Genomics Certificate
(iv) Prerequisite change for MBB 308
(v) Title, description and prerequisite change for MBB 428

6. Department of Biomedical Physiology and Kinesiology (SCUS 15-42e)

(i) New Course Proposal: BPK 495-6, Undergraduate Honours Research Performance (effective Spring 2017)
(ii) Course number and description change for BPK 497
(iii) Credit, title, description and prerequisite change for BPK 499 (effective Spring 2017)
(iv) Upper division requirement changes to the Biomedical Physiology Honours program
(v) Upper division requirement changes to the Kinesiology Honours program

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

EXISTING COURSE CHANGE FORM

COURSE SUBJECT	EASC	NUMBER	405	TITLE	Water, Environment and Climate Change

INSTRUCTIONS (OVERALL):

1. Using Microsoft Word draft changes using the following guideline. Paste in box below.
2. Rationale must be included. If more space is needed than provided below, please use the provided text box on page 2 of this document.
3. Indicate term = Fall, Spring, Summer

TYPE OF CHANGES RECOMMENDED

Please type 'X' for the appropriate revision(s):

	Course number		Credit		Title		Description		Prerequisite		Deletion
									X		

WORDING/DESCRIPTION EDITS

1. Indicate deleted or changed text using ~~strikethrough~~.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
   a. Students with credit for x cannot take y for further credit.

EASC 315, ~~304,~~ or both EASC 304 and GEOG 311. ~~315 or EASC 412, and GEOG 311~~.

SAMPLE

POL 223 ~~Canadian~~ American Political Economy (3)

~~An introductory study of~~ America's ~~Canada's~~ political economy, stressing the interrelated nature of Canada's economic and political life. ~~The course~~ Focuses on current economic problems and policies, taking into account the geographical, historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism.

~~This course is identical to CNS 280 and students cannot take both courses for credit.~~
Students with credit for CNS 280 cannot take POL 223 for further credit.

~~Recommended~~ Pre-requisite: POL 100 or 101W.

Breadth – Social Sciences.

RATIONALE

If more space is needed, please use the provided text box on page 2 of this document

GEOG 311 is not a required course for Earth Sciences majors; therefore, EASC majors must take an additional course to meet the existing pre-requisite. At least two upper division water (hydrologic sciences) courses should be taken to provide sufficient background for this integrative course. EASC 315 (requires EASC 304), OR both EASC 304 and GEOG 311 would provide sufficient background. Note EASC 412 was replaced by EASC 315 some time ago.

FALL 2016

SCUS 15-42

SFU
FACULTY OF SCIENCE
Dean of Science

TASC II 9900
8888 University Drive,
Burnaby, BC
Canada V5A 1S6

TEL 778.782.4590
FAX 778.782.3424

sfu.ca/science

MEMORANDUM

ATTENTION Senate Committee for Undergraduate Studies, SFU

DATE November 16, 2015

FROM Carl Lowenberger, Chair, Science UCC

RE: Submission of Undergraduate Curriculum Business from the Faculty of Science for inclusion on the Agenda of the December 2015 SCUS Meeting

STATISTICS

Motion 1: STAT 180 new course proposal
Motion 2: STAT 240 new course proposal
Motion 3: STAT 440 new course proposal

PHYSICS

Motion 1: PHYS 125 existing course change - corequisite
Motion 2: PHYS 126 existing course change - corequisite
Motion 3: PHYS 365 existing course change - description
Motion 4: PHYS 384 existing course change - prerequisites

BIOLOGY

Motion 1: BISC 308 new course proposal
Motion 2: BISC 313 existing course change – title, description, and prerequisite
Motion 3: BISC – changes to the Environmental Toxicology Minor program

MOLECULAR BIOLOGY AND BIOCHEMISTRY

Motion 1: MBB – Changes to the MBB major and MBB Honours programs

Motion 2: MBB – Changes to the MBB/CHEM JMA and MBB/CHEM JMA Honours programs
Motion 3: MBB – Changes to the Genomics Certificate
Motion 4: MBB 308 existing course change – prerequisite
Motion 5: MBB 428 existing course change – description, title, prerequisite

BIOMEDICAL PHYSIOLOGY AND KINESIOLOGY

Motion 1: BPK 495 new course proposal
Motion 2: BPK 497 existing course change – course number, description
Motion 3: BPK 499 existing course change – title, units, description, prerequisites
Motion 4: BPK – change in BPK Honours calendar language
Motion 5: BPK – change in Kinesiology Honours calendar language

MATH

Motion 1: MATH – NOI Joint Major and Joint Honours degree in Economics and Mathematics

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT STAT **NUMBER** 180

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

Career Development Seminar for Statistics and Actuarial Science

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

Career Development Seminar

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

A seminar primarily for students undertaking a major or an honors program in Statistics. Visiting speakers share experience relevant to Statistics students and provide useful education and career advice.

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 None

RATIONALE FOR INTRODUCTION OF THIS COURSE
If more space is needed, please use the provided text box on page 4 of this document

Many students enter into the Statistics major without any real idea of what the Statistics profession is about. In particular, many of them transfer to the program knowing very little about what jobs Statistics graduates might hold, the expectations of employers, and the kinds of academic and professional skills they need to develop in order to obtain and be successful in a job. In particular, so-called "soft skills" like communication and networking are immensely important but difficult to teach within our curriculum. Students need to develop these skills on their own, but by and large they do not understand the tremendous importance of doing so. (Continued)

SCHEDULING AND ENROLLMENT INFORMATION
Term and year course would first be offered (e.g. FALL 2014) Fall 2016

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 ☐ Elective

What is the probable enrollment when offered? Estimate: 30

UNITS

Indicate number of units: 1

Indicate no. of contact hours for: 0 Lecture 2 Seminar 0 Tutorial 0 Lab 0 Other – please explain

OTHER

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

Loughin, Campbell, Graham.

WQB DESIGNATION (attach approval from Curriculum Office)

None

PREREQUISITE AND / OR COREQUISITE

Enrollment, or intended enrollment, in either the Statistics or Actuarial Science major or honours, or permission of the instructor. Students with credit for MSSC 180 may not take this course for further credit.

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?

MSSC 180, which is restricted to MSSC majors.

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:

Course would be run in any suitably sized classroom. Likely to be an evening class to accommodate visiting speakers' schedules.

ALTERNATIVELY, course could be piggy-backed onto existing department seminar series "career talks," which make up half of the department's weekly seminars in the Fall each year. These are held in the IRMACS Theatre. The talks are followed by a "Meet the Speaker" session, where students can have further opportunity for interaction and engagement with the speaker.

NOTE: THE BUTTONS BELOW ARE BROKEN! NO final exam needed, NO criminal check needed. I can't say NO to both.

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

Tom Loughin

RATIONALE

More space if needed.

The Management and Systems Science (MSSC) program runs a very similar course for its majors, MSSC 180/481. They bring in speakers from various companies and jobs to describe the work that they do and the tools that they have needed to develop in order to succeed. The "life skills" content is very high; the technical content is very low. Students consistently report that MSSC 180/481 opened their eyes to how life after school works and to what they need to do to prepare for this. We believe that our own students would benefit from a very similarly run course.

The course meet once/week for approximately 10 weeks. It will consist of a 1-hour lecture by a visiting speaker, followed by a Q/A session for up to an hour. Students would write a paragraph or so about their impressions of the talk and lessons learned, to be handed in the next week. The workload is grades would typically be heavily based on attendance and participation. In light of the very light workload, we consider this a 1-hour course, despite the potential 2-hour meeting time. This is exactly the same designation as the MSSC 180/481seminars.

COURSE SUBJECT STAT **NUMBER** 240

COURSE TITLE

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

Introduction to Data Science

AND

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

Introduction to Data Science

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

Introduction to modern tools and methods for data acquisition, management and visualization capable of scaling to Big Data.

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

RATIONALE FOR INTRODUCTION OF THIS COURSE

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

The proposed course is required to address gaps in our students' learning with respect to data visualization, computational tools for large-scale data and issues in data management. The tools and techniques will be leveraged in other course work and are considered essential skills by employers seeking data scientists.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2014) Spring 2017

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 ☐ Elective

What is the probable enrollment when offered? Estimate: 40

UNITS

Indicate number of units: 3

Indicate no. of contact hours for: 2 Lecture 0 Seminar 0 Tutorial 1 Lab 0 Other – please explain

OTHER

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

Bornn, Campbell, McNeney

WQB DESIGNATION (attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

Prerequisites: A first course in computer programming, such as CMPT 120, and either a first course in statistics - such as STAT 101, STAT 201, or STAT 270 - or 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:

Establishment of a relational database on the SFU server "muncho". The database is needed for teaching the basic SQL component of the course outline and is useful for students to understand the various ways that large datasets are handled. Databases are often too large to directly load into analytic software and SQL is a very common and versatile tool for extracting relevant pieces of information from the database. Alternative hosting locations are possible but computing support is requested to set up a database accessible by the class.

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

Tom Loughin

RATIONALE

More space if needed.

The 2 hours of lecture will be used to discuss strategies for data acquisition and exploratory data analysis. This is to be supplemented with 1 hour of computer lab time where application to specific problems and computing libraries can be explored with emphasis on skill development.

The course will be distinct from our STAT 341, which uses some of the same software and teaches about working with "data." STAT 341 focuses on handling and manipulating data sets that have already been constructed into "rectangular" shape: variables and observations. This new proposal focuses more on how to create rectangular data out of less structured data, such as information on a website.

SFU
UNIVERSITY CURRICULUM AND INSTITUTIONAL LIAISON
OFFICE OF THE VICE-PRESIDENT, ACADEMIC

8888 University Drive, Burnaby, BC
Canada V5A 1S6
TEL: 778.782.3312
FAX: 778.782.5876
slrhodes@sfu.ca
www.sfu.ca/ugcr

MEMORANDUM

ATTENTION	Carl Loenberger, Associate Dean, Faculty of Science	**DATE**	October 30, 2015
FROM	Susan Rhodes, Director University Curriculum & Institutional Liaison	**PAGES**	1
RE:	STAT Q designation approval		

The University Curriculum Office has approved **Q** designation for the following proposed new Faculty of Science course, effective Fall 2016 (1167):

STAT 240-3 Introduction to Data Science

cc: Tom Loughlin, Chair, Department of Statistics and Actuarial Science

SFU

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT STAT **NUMBER** 440

COURSE TITLE

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

Learning from Big Data

AND

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

Learning from Big Data

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

A data-first discovery of advanced statistical methods. Focus will be on a series of forecasting and prediction competitions, each based on a large real-world dataset. Additionally, practical tools for statistical modeling in real-world environments 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 a library report and, if appropriate, confirmation that funding arrangements have been addressed.

Library report status, see 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

The skills required to work as a statistician/data scientist in modern industry are at a disconnect with our modern teaching methods. In particular, statistics courses are often taught in a methods-first approach, with data only entering the picture to support the teaching of methods. In contrast, in industry practitioners are faced with complex, real-world data alongside a business problem, and it is up to the practitioner to select the appropriate method or model. By working directly with real-world datasets sourced from open sources and industry collaborations, students will build the skills to aid them in entering the workforce after graduation.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2014) Spring 2017

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 ■ Elective

What is the probable enrollment when offered? Estimate: 40

UNITS

Indicate number of units: 3

Indicate no. of contact hours for: [ ] Lecture [ ] Seminar [ ] Tutorial [3] Lab [ ] Other – please explain

OTHER

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

Bornn, Campbell, Loughin, McNeney

WQB DESIGNATION (attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

Stat 350 or equivalent, and one of: Stat 240, Stat 445, Stat 460, Stat 475, Stat 485, CMPT 225, CMPT 307, CMPT 417, CMPT 419, BUS 336, BUS 441, BUS 445, BUS 462, PSYC 301, or instructor approval.

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:

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

Luke Bornn

RATIONALE

More space if needed.

This course is based on Harvard Stat 183 - "Learning from Big Data", which Prof. Bornn developed and taught before joining SFU. An article on the course (and it's rationale) may be found here: http://news.harvard.edu/gazette/story/2014/03/for-big-data-big-thinking/

SCUS 15-42b

MEMO

Jeffrey McGuirk
Associate Professor
Undergraduate Chair
Dept. of Physics

TEL: 778.782.3158
physics.sfu.ca

ATTENTION: Carl Lowenberger, Assoc. Dean of Science

RE: Undergraduate Program changes for the Department of Physics

DATE: November 9, 2015

At its meeting of October 8, 2015, the Department of Physics approved the following curricular program changes:

1) **Motion 1a: To change the corequisite of PHYS 125 from MATH 125 to (MATH 125 or MATH 151).**

   Motion 1b: To change the corequisite of PHYS 126 from MATH 126 to (MATH 126 or MATH 152).

   Rationale: Coupling these demanding enriched courses has produced unsustainably small enrollments. Relaxing the corequisite requirements to include a less demanding course will improve enrollment.

2) **Motion 2: To change the description of PHYS 365 to exclude ENSC 324 instead of ENSC 224.**

   Rationale: ENSC 224 has been discontinued and replaced with ENSC 324, which covers similar content.

3) **Motion 3: To change the prerequisites to PHYS 384 to replace ENSC 380 with ENSC 320.**

   Rationale: ENSC 320 is equally appropriate as a course in applied transforms, differential equations, and complex numbers and better suits the course trajectory of Engineering Physics students. ENSC 380 will typically be taken concurrently with PHYS 384.

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

Jeff McGuirk
Undergraduate Chair
Dept. of Physics

COURSE SUBJECT	PHYS	NUMBER	125	TITLE	Mechanics and Special Relativity

INSTRUCTIONS (OVERALL):

1. Using Microsoft Word draft changes using the following guideline. Paste in box below.
2. Rationale must be included. If more space is needed than provided below, please use the provided text box on page 2 of this document.
3. Indicate term = Fall, Spring, Summer

TYPE OF CHANGES RECOMMENDED

Please type 'X' for the appropriate revision(s):

	Course number		Credit		Title		Description	X	Prerequisite		Deletion

WORDING/DESCRIPTION EDITS

1. Indicate deleted or changed text using ~~strikethrough~~.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
   a. Students with credit for x cannot take y for further credit.

Prerequisite: Permission of the department. Co-requisite: MATH 125 or MATH 151. Quantitative.

SAMPLE

POL 223 ~~Canadian~~ American Political Economy (3)

~~An introductory study of~~ America's ~~Canada's~~ political economy, stressing the interrelated nature of Canada's economic and political life. ~~The course~~ Focuses on current economic problems and policies, taking into account the geographical, historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism.

~~This course is identical to CNS 280 and students cannot take both courses for credit.~~
Students with credit for CNS 280 cannot take POL 223 for further credit.

~~Recommended~~ Pre-requisite: POL 100 or 101W.

Breadth – Social Sciences.

RATIONALE

If more space is needed, please use the provided text box on page 2 of this document

Coupling these demanding enriched courses has produced unsustainably small enrollments. Relaxing the corequisite requirements to include a less demanding course will improve enrollment.

EFFECTIVE TERM AND YEAR, FOR CHANGES

FALL 2016

COURSE SUBJECT	PHYS	NUMBER	126	TITLE	Electricity, Magnetism and Light

INSTRUCTIONS (OVERALL):

1. Using Microsoft Word draft changes using the following guideline. Paste in box below.
2. Rationale must be included. If more space is needed than provided below, please use the provided text box on page 2 of this document.
3. Indicate term = Fall, Spring, Summer

TYPE OF CHANGES RECOMMENDED

Please type 'X' for the appropriate revision(s):

	Course number		Credit		Title		Description	X	Prerequisite		Deletion

WORDING/DESCRIPTION EDITS

1. Indicate deleted or changed text using ~~strikethrough~~.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
   a. Students with credit for x cannot take y for further credit.

Prerequisite: PHYS 125 and permission of the department. Co-requisite: MATH 126 or MATH 152. Quantitative.

SAMPLE

POL 223 ~~Canadian~~ American Political Economy (3)

~~An introductory study of~~ America's ~~Canada's~~ political economy, stressing the interrelated nature of Canada's economic and political life. ~~The course~~ Focuses on current economic problems and policies, taking into account the geographical, historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism.

~~This course is identical to CNS 280 and students cannot take both courses for credit.~~
Students with credit for CNS 280 cannot take POL 223 for further credit.

~~Recommended~~ Pre-requisite: POL 100 or 101W.

Breadth – Social Sciences.

RATIONALE

If more space is needed, please use the provided text box on page 2 of this document

Coupling these demanding enriched courses has produced unsustainably small enrollments. Relaxing the corequisite requirements to include a less demanding course will improve enrollment.

EFFECTIVE TERM AND YEAR, FOR CHANGES

FALL 2016

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

EXISTING COURSE CHANGE FORM

COURSE SUBJECT	PHYS	NUMBER	365	TITLE	Semiconductor Device Physics

INSTRUCTIONS (OVERALL):

1. Using Microsoft Word draft changes using the following guideline. Paste in box below.
2. Rationale must be included. If more space is needed than provided below, please use the provided text box on page 2 of this document.
3. Indicate term = Fall, Spring, Summer

TYPE OF CHANGES RECOMMENDED

Please type 'X' for the appropriate revision(s):

	Course number		Credit		Title	X	Description			Prerequisite		Deletion

WORDING/DESCRIPTION EDITS

1. Indicate deleted or changed text using ~~strikethrough~~.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
   a. Students with credit for x cannot take y for further credit.

Structure and properties of semiconductors, semiconductor theory, theory and operation of semiconductor devices, semiconductor device technology. Students with credit for ENSC 224 or ENSC 324 may not take PHYS 365 for further credit. Prerequisite: PHYS 321 or 221; PHYS 255 or ENSC 380, with a minimum grade of C-. PHYS 321, ENSC 380, and PHYS 365 may be taken concurrently. Recommended: PHYS 285. Quantitative.

SAMPLE

POL 223 ~~Canadian~~ American Political Economy (3)

~~An introductory study of~~ America's ~~Canada's~~ political economy, stressing the interrelated nature of Canada's economic and political life. ~~The course~~ Focuses on current economic problems and policies, taking into account the geographical, historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism.

~~This course is identical to CNS 280 and students cannot take both courses for credit.~~
Students with credit for CNS 280 cannot take POL 223 for further credit.

~~Recommended~~ Pre-requisite: POL 100 or 101W.

Breadth – Social Sciences.

RATIONALE

If more space is needed, please use the provided text box on page 2 of this document

ENSC 224 has been discontinued and replaced with ENSC 324, which covers similar content.

EFFECTIVE TERM AND YEAR, FOR CHANGES

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

~~Spring~~ 2016 FALL

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

EXISTING COURSE CHANGE FORM

COURSE SUBJECT	PHYS	NUMBER	384	TITLE	Electricity, Magnetism and Light

INSTRUCTIONS (OVERALL):

1. Using Microsoft Word draft changes using the following guideline. Paste in box below.
2. Rationale must be included. If more space is needed than provided below, please use the provided text box on page 2 of this document.
3. Indicate term = Fall, Spring, Summer

TYPE OF CHANGES RECOMMENDED

Please type 'X' for the appropriate revision(s):

	Course number		Credit		Title		Description	X	Prerequisite		Deletion

WORDING/DESCRIPTION EDITS

1. Indicate deleted or changed text using ~~strikethrough~~.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
   a. Students with credit for x cannot take y for further credit.

Applications of mathematical methods in physics, differential equations of physics, eigenvalue problems, solutions to wave equations. Prerequisite: MATH 252 or 254; MATH 310; PHYS 255 or ~~ENSC 380~~ ENSC 320, with a minimum grade of C-. Corequisite: PHYS 211. Quantitative.

SAMPLE

POL 223 ~~Canadian~~ American Political Economy (3)

~~An introductory study of~~ America's ~~Canada's~~ political economy, stressing the interrelated nature of Canada's economic and political life. ~~The course~~ Focuses on current economic problems and policies, taking into account the geographical, historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism.

~~This course is identical to CNS 280 and students cannot take both courses for credit.~~
Students with credit for CNS 280 cannot take POL 223 for further credit.

~~Recommended~~ Pre-requisite: POL 100 or 101W.

Breadth – Social Sciences.

RATIONALE

If more space is needed, please use the provided text box on page 2 of this document

ENSC 320 is equally appropriate as a course in applied transforms, differential equations, and complex numbers and better suits the course trajectory of Engineering Physics students. ENSC 380 will typically be taken concurrently with PHYS 384.

EFFECTIVE TERM AND YEAR, FOR CHANGES

FALL 2016

SCUS 15-42c

SFU

DEPARTMENT OF
BIOLOGICAL SCIENCES

Erin Barley
Senior Lecturer
Chair, DUCC
Dept Biological Sciences

Simon Fraser University
Department of Biological Sciences
8888 University Drive,
Burnaby, BC, Canada
V5A 1S6

TEL: 778-782-4972
ebarley@sfu.ca

November 9, 2015

ATTENTION: Carl Lowenberger,
Associate Dean, Faculty of Science

RE: The following 3 motions form a package of changes to our Environmental Toxicology Minor program.

Motion 1: To approve BISC 308 Environmental Toxicology: An Ecological Perspective as a new course.
Motion 2: To approve a title, pre-req, and description changes to BISC 313 Environmental Toxicology.
Motion 3: To approve changes to the Environmental Toxicology Minor program.

Rationale:
The Environmental Toxicology Minor was previously a popular program that helped students with a BSc who were entering environment related careers. In recent years, the Department has not accepted students into this program, as we were not able to offer both of the core Environmental Toxicology courses. With the hire of an environmental toxicologist (Dr. Vicki Marlatt) we now have teaching capacity to re-activate this program. Re-activation of the program includes:

1. Approval of BISC 308 Environmental Toxicology: An Ecological Perspective as a new course. This is one of the 2 core courses in the program. This replaces BISC 312, which was cancelled a few years ago when we did not have teaching capacity to offer it.
2. The title and course description changes will parallel those of BISC 308, to set these up as a pair of courses. BISC 308 is recommended but not a required as a pre-requisite.
3. The proposed program changes expand the list of upper division course options for the program, and reflect changes in course offerings by other departments. Note that FENV was consulted about the addition of REM courses as restricted electives, and they approved the wording regarding possible waivers for the pre-req to the REM courses.

Sincerely,

Erin Barley

COURSE SUBJECT BISC **NUMBER** 308

COURSE TITLE

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

Environmental Toxicology: An Ecological Perspective

AND

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

EnviroTox: Ecology

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

Students are introduced to the major environmental toxicants, their sources, and interactions with terrestrial and aquatic environments. Through historical and current case studies of environmental toxicants, this course will provide an understanding of the basic principles of environmental toxicology particularly as they apply to populations, communities and ecosystems.

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 Approved

RATIONALE FOR INTRODUCTION OF THIS COURSE

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

This course will provide an introduction to the field of environmental toxicology, focusing on larger global issues and ecology. It provides a companion course to Environmental Toxicology: A Mechanistic Perspective which focuses on the lower levels of biological organization and toxic mechanisms of action. This course replaces BISC 312, which was previously a core course in the minor, but was canceled when the Department was no longer able to offer it. A recent hire has allowed us to support this course on an ongoing basis.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2014) Fall 2016

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 ☐ Elective

What is the probable enrollment when offered? Estimate: 50

UNITS

Indicate number of units: 3

Indicate no. of contact hours for: 3 Lecture | Seminar | Tutorial | Lab | Other – please explain

OTHER

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

Dr. Vicki Marlatt, Dr. Chris Kennedy

WQB DESIGNATION (attach approval from Curriculum Office)

None

PREREQUISITE AND / OR COREQUISITE

Pre-requisite: BISC 101, BISC 102, and either BISC 204 or GEOG 215, all with C- or better.

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?

Students who have taken BISC 312, or special topics course BISC 473 with the title "Introduction to Environmental Toxicology", may not take this course for further credit.

COURSE – LEVEL EDUCATIONAL GOALS (OPTIONAL)

Upon successful completion of this course, students should be able to:
1. Describe the major classes of environmental toxicants/pollutants in the air, land and water.
2. Explain the chemical properties that determine the fate and transport of environmental toxicants in the environment.
3. Evaluate data derived from the measures used to determine the effects of enviornmental toxicants at the population, community and ecosystem levels of biological organization.
4. Integrate the knowledge acquired throughout the course to discuss current global environmental pollution issues, and their consequences at the population, community and ecosystem level.

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 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	313	TITLE	Environmental Toxicology

INSTRUCTIONS (OVERALL):

1. Using Microsoft Word draft changes using the following guideline. Paste in box below.
2. Rationale must be included. If more space is needed than provided below, please use the provided text box on page 2 of this document.
3. Indicate term = Fall, Spring, Summer

TYPE OF CHANGES RECOMMENDED

Please type 'X' for the appropriate revision(s):

	Course number		Credit	X	Title	X	Description	X	Prerequisite		Deletion

WORDING/DESCRIPTION EDITS

1. Indicate deleted or changed text using ~~strikethrough~~.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
   a. Students with credit for x cannot take y for further credit.

BISC 313 Environmental Toxicology: A Mechanistic Perspective

[The new course form now requests a SHORT TITLE (max 30 characters), for transcripts etc. Please change the short title to:] EnviroTox: Mechanisms

~~This course introduces students to basic principles of toxicology and several classes of widely encountered environmental pollutants. Emphasis is on toxicology as an interdisciplinary science. This course is a prereq for all advanced toxicology courses.~~

Students are introduced to general principles of toxicological action, testing, evaluation and assessment. The environmental fate and toxic mechanisms of action of several important classes of environmental pollutants in several organisms (including humans) will be examined at different levels of organization, from the molecular and biochemical to the function of organ systems and behaviour.

Recommended: BISC 308 Environmental Toxicology: An Ecological Perspective. Prerequisite: MBB 231 with a grade of C- or better.

SAMPLE

POL 223 ~~Canadian~~ American Political Economy (3)

~~An introductory study of~~ America's ~~Canada's~~ political economy, stressing the interrelated nature of Canada's economic and political life. ~~The course~~ Focuses on current economic problems and policies, taking into account the geographical, historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism.

~~This course is identical to CNS 280 and students cannot take both courses for credit.~~
Students with credit for CNS 280 cannot take

RATIONALE

If more space is needed, please use the provided text box on page 2 of this document

The changes are in response to the addition of a new Environmental Toxicology course (BISC 308 Environmental Toxicology: An Ecological Perspective). The change in title sets the courses up as a pair. The change in calendar description is a re-articulation of what the course currently covers; course content has not changed significantly. The change in pre-req suggests (but does note mandate) a sequence to the pair of courses.

EFFECTIVE TERM AND YEAR, FOR CHANGES

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

Fall 2016

BISC MOTION 3: To approve changes to the Environmental Toxicology Minor program.

(Deletions in ~~strikethrough~~, additions underlined.)

This program provides a thorough overview of environmental toxicology. Students who complete this program will be ~~better~~ more qualified and eligible for employment with various ~~industrial~~ businesses, ~~and~~ governmental and non-governmental agencies, and academia ~~that are~~ engaged in environmental monitoring, assessment, and research.

Students who are interested in an environmental toxicology minor should contact the department early.

...

Lower Division Requirements

...

Students complete all of

BISC 101 - General Biology (4)
BISC 102 - General Biology (4)
BISC 204 - Introduction to Ecology (3)
CHEM 121 - General Chemistry and Laboratory I (4)
CHEM 122 - General Chemistry II (2)
CHEM 126 - General Chemistry Laboratory II (2)
CHEM 281 - Organic Chemistry I (4)
~~CHEM 286 - Organic Chemistry Laboratory II (2)~~
MBB 222 - Molecular Biology and Biochemistry (3)
MBB 231 - Cellular Biology and Biochemistry (3)
STAT 201 - Statistics for the Life Sciences (3)

and one of

CHEM 282 - Organic Chemistry II (2)
CHEM 283 - Organic Chemistry IIb (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)

and one of

MATH 152 - Calculus II (3)

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

and one of

PHYS 101 - Physics for the Life Sciences I (3)
PHYS 120 - Mechanics and Modern Physics (3)
PHYS 125 - Mechanics and Special Relativity (3)
PHYS 140 - Studio Physics - Mechanics and Modern Physics (4)

and one of

PHYS 102 - Physics for the Life Sciences II (3)
PHYS 121 - Optics, Electricity and Magnetism (3)
PHYS 126 - Electricity, Magnetism and Light (3)
PHYS 141 - Studio Physics - Optics, Electricity and Magnetism (4)

Upper Division Requirements

Students complete both of

BISC 308 –Environmental Toxicology: An Ecological Perspective (3)
BISC 313 - Environmental Toxicology (3)
~~BISC 432 - Chemical Pesticides and the Environment (3)~~

and one of:

BISC 305 – Animal Physiology (3)
BPK 305 – Human Physiology I (3)
BPK 306 – Human Physiology II (Principles of Physiology Regulation) (3)
BISC 366 – Plant Physiology (3)

and three of

BISC 309 – Conservation Biology (3)
BISC 435 – Introduction to Pest Management (3)
BISC 439 – Industrial Microbiology (4)
BISC 445 - Environmental Physiology of Animals (3)
CHEM 371 - Chemistry of the Aqueous Environment (3)
BPK 431 - Integrative Cancer Biology (3)
HSCI 304 - Perspectives on Environmental Health (3)
HSCI 323 - Principles of Pharmacology and Toxicology (3)
REM 311- Applied Ecology and Sustainable Environments (3)
REM 350 – Sustainable Energy and Materials Management (4)
REM 412 – Environmental Modeling (3)
REM 445 – Environmental Risk Assessment (3)

and their prerequisites. Students may receive permission to have the two HSCI 200 division course prerequisites waived for the HSCI courses (contact the Faculty of Health Sciences undergraduate program assistant). Students missing REM pre-requisites for REM courses may apply to the REM undergraduate program assistant for waiver.

~~Upper division credit may not fulfil units for more than one program. Some substitutions may be required. Appropriate course substitutions follow.~~

~~BISC 366 - Plant Physiology (3)~~
~~BISC 405 - Neurobiology (3)~~
~~BPK 305 - Human Physiology I (3)~~
~~BPK 306 - Human Physiology II (Principles of Physiological Regulation) (3)~~

SCUS 15-42d

MEMO

Department of
Molecular Biology &
Biochemistry

8888 University Drive
Burnaby BC V5A 1S6

T: 778.782.5630
F: 778-782-5583

www.sfu.ca/mbb

ATTENTION Carl Loweberger, Associate Dean of Science | TEL
BB
FROM Ingrid Northwood, MBB undergraduate Curriculum Committee Chair

RE Proposed agenda items to , Nov 12, 2015 FOSUCC meeting

DATE November 23, 2015

At its meeting of Sept 11, 2015, the MBB department approved the following curricular program changes:

1: Three Program changes to MBB major and MBB honours
- to include two new courses as UD electives: MBB 429-RNA mediated Gene Regulation and MBB 463-Forensic Genomics.
- To remove MBB 442-Proteomics and MBB 437 – Signal Transduction, which are no longer offered
- To add the phrase "unless otherwise noted" to the global pre-requisite paragraph

2: Two Program changes to CHEM-MBB JMA and CHEM-MBB JMA honours
- to include MBB 324 – Protein Biochemistry as a required course option
- to replace Physics 131 with Physics 132 and Physics 133

3: Two Program changes to the Genomics Certificate to include MBB 463 – Forensic Genomics as a required course option and to remove MBB 442 which is no longer offered.

4: One prerequisite change to MBB308
- to change the pre-req to MBB 331 with a minimum grade of C-

5: One course description change
- MBB 428

6: One course title change
- MBB 428 from Molecular Mechanisms of Microbial Pathogenesis to Microbial Pathogenesis

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

Program Change for Majors AND Honours: TO

Molecular Biology and Biochemistry

PREREQUISITE COURSE GRADE

For a course to be accepted as fulfilling a prerequisite for any upper division MBB course, a student must have obtained a minimum grade of C, unless otherwise noted

and a minimum of five courses chosen from the following list. There is no upper limit on the quantity in this list that can completed.

MBB 323 - Introduction to Physical Biochemistry (3)
MBB 324 – Protein Biochemistry (3)
MBB 342 – Introduction to Genomics and Bioinformatics (3)
MBB 402 - Molecular and Developmental Genetics (3)
MBB 420 - Selected Topics in Contemporary Biochemistry (3)
MBB 421 - Nucleic Acids (3)
MBB 422 - Biomembranes (3)
MBB 423 - Protein Structure and Function (3)
MBB 424 - Membrane Transport Mechanisms (3)
MBB 426 - Immune System I: Basis of Innate and Adaptive Immunity (4)
MBB 427 - Immune System II: Immune Responses in Health and Disease (3)
MBB 428 - Molecular Mechanisms of Microbial Pathogenesis (3)
MBB 429 – RNA Mediated Gene Regulation (3)
MBB 430 - Mechanisms of Secretory Transport (3)
MBB 431 - Cells and Disease (3)
MBB 432 - Advanced Molecular Biology Techniques (3)
MBB 435 - Genome Biology (3)
MBB 436 - Gene Expression (3)
~~MBB 437 – Signal Transduction (3)~~
MBB 438 - Human Molecular Genetics (3)
MBB 440 - Selected Topics in Contemporary Molecular Biology (3)
MBB 441 - Bioinformatics (3)
~~MBB 442 - Proteomics (3)~~
MBB 443 - Protein Biogenesis and Degradation (3)
MBB 444 - Developmental Neurobiology (3)
MBB 446 - Cell Death and Cell Survival (3)
MBB 461 - Comparative Genomics (3)
MBB 462 - Human Genomics (3)
MBB 463 – Forensic Genomics (3)
PHYS 433 - Biological Physics Laboratory (3)

Program Change for Majors AND Honours: TO

Chemistry and Molecular Biology and Biochemistry Joint Major and Joint Honours

Lower Division Requirements

and all of
PHYS 120 - Mechanics and Modern Physics (3)
PHYS 121 - Optics, Electricity and Magnetism (3)
~~PHYS 131 - Physics Laboratory I (2)~~
PHYS 132 – Physics Laboratory (1)
PHYS 133 – Physics Laboratory (1)

Upper Division Requirements

Students complete all of the following
CHEM 316 - Introductory Instrumental Analysis (4)
CHEM 332 - The Chemistry of Transition Metals (3)
CHEM 380 - Chemical and Instrumental Methods of Identification of Organic Compounds (4)
MBB 309W - Biochemistry Laboratory (4)
MBB 321 - Intermediary Metabolism (3)
MBB 331 - Molecular Biology (3)
and one of
CHEM 360 - Thermodynamics and Chemical Kinetics (3)
MBB 323 - Introduction to Physical Biochemistry (3)

and a minimum of six units chosen from either MBB 324 and/or any 400 level MBB courses, and a minimum of two upper division chemistry courses, including at least 3 units (excluding CHEM 481) at the 400-level.

Genomics
CERTIFICATE

And three of
MBB 435 - Genome Biology (3)
MBB 441 - Bioinformatics (3)
~~MBB 442 - Proteomics (3)~~
MBB 461 - Comparative Genomics (3)
MBB 462 - Human Genomics (3)
MBB 463 – Forensic Genomics (3)
MBB 420 - Selected Topics in Contemporary Biochemistry (3) #
MBB 440 - Selected Topics in Contemporary Molecular Biology (3) #
BISC 471 - Special Topics in Cells, Molecules and Physiology (3) #
BISC 472 - Special Topics in Cells, Molecules and Physiology (3) #
BISC 473 - Special Topics in Ecology, Evolution and Conservation (3) #
course must be in an area related to genomics and must be approved by the MBB academic advisor

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

EXISTING COURSE CHANGE FORM

COURSE SUBJECT	MBB	NUMBER	308	TITLE	Molecular Biology Lab

INSTRUCTIONS (OVERALL):

1. Using Microsoft Word draft changes using the following guideline. Paste in box below.
2. Rationale must be included. If more space is needed than provided below, please use the provided text box on page 2 of this document.
3. Indicate term = Fall, Spring, Summer

TYPE OF CHANGES RECOMMENDED

Please type 'X' for the appropriate revision(s):

	Course number		Credit		Title		Description	x	Prerequisite		Deletion

WORDING/DESCRIPTION EDITS

1. Indicate deleted or changed text using ~~strikethrough~~.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
   a. Students with credit for x cannot take y for further credit.

MBB 308 - Molecular Biology Laboratory (3)

Prerequisite: ~~MBB 231,~~ and MBB 331 ~~as a co- or pre-requisite (the latter is recommended),~~ with a minimum grade of ~~C-~~ C-

RATIONALE

If more space is needed, please use the provided text box on page 2 of this document

Currently two different populations of students enroll in MBB308, those that have already taken MBB331 (Molecular Biology) and those that are taking MBB308 and MBB331 together. This vast background knowledge difference between these two cohorts of students has always been problematic but now that the lab component of MBB308 has been upgraded and made more relevant and challenging it's essential that all students come into MBB308 having already taken and passed MBB331. With both these courses now offered 3 times a year, no student's graduation should be delayed. The rationale for a C- grade in MBB331 instead of the C normally required for MBB UD courses is that MBB331 and MBB308 are both required for HSCI students and are terminal courses for them so a C- in MBB331 will not affect the ability of HSCI students to take further courses for their degree. MBB students will have the option of repeating MBB331 if a grade of C is required for a 400 level course they wish to take or they have the option of taking 400 level MBB courses that do not require MBB331 as a pre-requisite in order to complete their degree.

EFFECTIVE TERM AND YEAR, FOR CHANGES

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

FALL 2016

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

EXISTING COURSE CHANGE FORM

COURSE SUBJECT	MBB	NUMBER	428	TITLE	Molecular Mechanisms of Microbial Pathogenesis

INSTRUCTIONS (OVERALL):

1. Using Microsoft Word draft changes using the following guideline. Paste in box below.
2. Rationale must be included. If more space is needed than provided below, please use the provided text box on page 2 of this document.
3. Indicate term = Fall, Spring, Summer

TYPE OF CHANGES RECOMMENDED

Please type 'X' for the appropriate revision(s):

	Course number		Credit	x	Title	x	Description	x	Prerequisite		Deletion

WORDING/DESCRIPTION EDITS

1. Indicate deleted or changed text using ~~strikethrough~~.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
   a. Students with credit for x cannot take y for further credit.

MBB 428 – ~~Molecular Mechanisms of~~ Microbial Pathogenesis

The molecular strategies that bacterial~~,~~ and viral ~~and fungal~~ pathogens use to colonize the human body and cause disease will be studied. ~~Using specific organisms as illustrations,~~ Emphasis will be placed on ~~the structural biology of molecular systems such as acquisition and use of~~ specific microbes and their virulence factors, ~~adhesion and invasion of host cells,~~ secretion systems, ~~of~~ toxins and ~~immune escape~~ surface adhesins. ~~adhesions~~. Strategies for combating microbial infections – antibiotics, antiviral agents and vaccines – will be discussed in detail ~~Prions, zoonoses and emerging diseases will be included. Students who have taken MBB 420 under the same title cannot take this course for further credit.~~

Prerequisite: MBB 322 with a minimum grade of C.

RATIONALE

If more space is needed, please use the provided text box on page 2 of this document

This course is no longer co-taught with the Biology Department so the description of the course has been changed to reflect this change in content. Old terminology (the 420 exclusion) is no longer relevant and has been deleted. The course title has been shortened

EFFECTIVE TERM AND YEAR, FOR CHANGES

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

Fall 2016

RATIONALE

SFU
Department of
Biomedical Physiology and Kinesiology
Faculty of Science

November 2, 2015

Faculty of Science
Simon Fraser University
8888 University Drive
Burnaby, BC V5A 1S6

To: Carl Lowenberger Associate Dean, Faculty of Science;

RE: Undergraduate Program changes for the Department of Biomedical Physiology and Kinesiology

1. BPK Motion: Creation of new course BPK 495 – Undergraduate Honours Research Techniques (6)

2. BPK Motion: Change in number and description for BPK 497- Undergraduate Honours Thesis Proposal (3).

3. BPK Motion: Change in title, credits, description and prerequisites for BPK 499 – Undergraduate Honours Thesis (12).

4. BPK Motion: Change in Biomedical Physiology Honours calendar language.

5. BPK Motion: Change in Kinesiology Honours calendar language.

Rationale: Currently, students are given a single grade for BPK 499 that applies to 12 credits of work. Splitting the 499 into two 6-credit courses (BPK 495 (6) and BPK 499(6)) will allow supervisors to allocate grades more specifically to the separate skills of the performance of research in the lab and the writing and presentation of the research in the thesis and oral defense. It will also provide more specific information about the student's independence, skills acquisition and ability to gather data in the laboratory and their ability to support, describe, justify and discuss their conclusions in the written and oral presentation of their work. Changing the number of BPK 497 to BPK 491 for the honours proposal allows course enrollment in the honours program to progress numerically.

Sincerely,

Ryan Dill
Senior Lecturer
Undergraduate Program Committee Chair

BPK Motions for Faculty of Science UCC – November 2015 – Ryan Dill

1. BPK Motion: Creation of new course BPK 495 – Undergraduate Honours Research Techniques (6)

Rationale: Currently, students are given a single grade for BPK 499 that applies to 12 credits of work. Splitting the 499 into two 6-credit courses (BPK 495 (6) and BPK 499(6)) will allow supervisors to allocate grades more specifically to the separate skills of the performance of research in the lab and the writing and presentation of the research in the thesis and oral defense. It will also provide more specific information about the student's independence, skills acquisition and ability to gather data in the laboratory and their ability to support, describe, justify and discuss their conclusions in the written and oral presentation of their work.

COURSE SUBJECT BPK **NUMBER** 495

COURSE TITLE

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

Undergraduate Honours Research Performance

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

The grade for BPK 495 is based on the research performance required for the completion of the honours thesis as outlined BPK 491 - Undergraduate Honours Thesis 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

RATIONALE FOR INTRODUCTION OF THIS COURSE

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

Currently, students are given a single grade for BPK 499 that applies to 12 credits of work. Splitting the 499 into two 6-credit courses (BPK 495 (6) and BPK 499(6)) will allow supervisors to allocate grades more specifically to the separate skills of the performance of research in the lab and the writing and presentation of the research in the thesis and oral defense. It will also provide more specific information about the studentâ independence, skills acquisition and ability to gather data in the laboratory and their ability to support, describe, justify and discuss their conclusions in the written and oral presentation of their work.

SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2014) Spring 2017

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 ☐ Elective

What is the probable enrollment when offered? Estimate: 5

UNITS

Indicate number of units: 6

Indicate no. of contact hours for: [ ] Lecture [ ] Seminar [ ] Tutorial [ ] Lab [6] Other – please explain

OTHER

The grade for BPK 495 is based on the research performance required for the completion of the honours thesis as outlined BPK 491- Undergraduate Honours Thesis Proposal. The grade for BPK 499-6 will be based on the written and presented honours thesis.

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

All BPK faculty members.

WQB DESIGNATION (attach approval from Curriculum Office)

PREREQUISITE AND / OR COREQUISITE

Prerequisite: BPK 491. Co-requisite: BPK 499. Only students in the honours program may enroll in BPK 495.

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?

BPK 499 prior to Fall 2016.

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 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

Ryan Dill

2. BPK Motion: Change in number and description for BPK 497- Undergraduate Honours Thesis Proposal (3).

Rationale: Currently, students are given a single grade for BPK 499 that applies to 12 credits of work. Splitting the 499 into two 6-credit courses (BPK 495 (6) and BPK 499(6)) will allow supervisors to allocate grades more specifically to the separate skills of the performance of research in the lab and the writing and presentation of the research in the thesis and oral defense. It will also provide more specific information about the student's independence, skills acquisition and ability to gather data in the laboratory and their ability to support, describe, justify and discuss their conclusions in the written and oral presentation of their work. Changing the number from BPK 497 to 491 for the honours proposal allows course enrollment to progress numerically.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

EXISTING COURSE CHANGE FORM

COURSE SUBJECT	BPK	NUMBER	497	TITLE	Undergraduate Honours Thesis Proposal

INSTRUCTIONS (OVERALL):

1. Using Microsoft Word draft changes using the following guideline. Paste in box below.
2. Rationale must be included. If more space is needed than provided below, please use the provided text box on page 2 of this document.
3. Indicate term = Fall, Spring, Summer

TYPE OF CHANGES RECOMMENDED

Please type 'X' for the appropriate revision(s):

X	Course number		Credit		Title	X	Description		Prerequisite		Deletion

WORDING/DESCRIPTION EDITS

1. Indicate deleted or changed text using ~~strikethrough~~.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
   a. Students with credit for x cannot take y for further credit.

BPK ~~497~~ 491- Undergraduate Honours Thesis Proposal (3)

Only students in the honours program may enroll in BPK 491 ~~497~~. Students with credit for BPK (or KIN) 497 may not take this course for further credit. Prerequisite: 90 units, BPK (or KIN) 304W (may be taken concurrently) and permission of the chair of the undergraduate program committee.

SAMPLE

POL 223 ~~Canadian~~ American Political Economy (3)

~~An introductory study of~~ America's ~~Canada's~~ political economy, stressing the interrelated nature of Canada's economic and political life. ~~The course~~ Focuses on current economic problems and policies, taking into account the geographical, historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism.

~~This course is identical to CNS 280 and students cannot take both courses for credit.~~
Students with credit for CNS 280 cannot take POL 223 for further credit.

~~Recommended~~ Pre-requisite: POL 100 or 101W.

Breadth – Social Sciences.

RATIONALE

If more space is needed, please use the provided text box on page 2 of this document

Please see page two.

EFFECTIVE TERM AND YEAR, FOR CHANGES

FALL 2016

More space if needed.

Currently, students are given a single grade for BPK 499 that applies to 12 credits of work. Splitting the 499 into two 6-credit courses (BPK 495 (6) and BPK 499(6)) will allow supervisors to allocate grades more specifically to the separate skills of the performance of research in the lab and the writing and presentation of the research in the thesis and oral defense. It will also provide more specific information about the student's independence, skills acquisition and ability to gather data in the laboratory and their ability to support, describe, justify and discuss their conclusions in the written and oral presentation of their work. Changing the number from BPK 497 to 491 for the honours proposal allows course enrollment to progress numerically.

3. BPK Motion: Change in title, units, description and prerequisites for BPK 499.

Rationale: Currently, students are given a single grade for BPK 499 that applies to 12 credits of work. Splitting the 499 into two 6-unit courses (BPK 495 (6) and BPK 499(6)) will allow supervisors to allocate grades more specifically to the separate skills of the performance of research in the lab and the writing and presentation of the research in the thesis and oral defense. It will also provide more specific information about the student's independence, skills acquisition and ability to gather data in the laboratory and their ability to support, describe, justify and discuss their conclusions in the written and oral presentation of their work.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

EXISTING COURSE CHANGE FORM

COURSE SUBJECT	BPK	NUMBER	499	TITLE	Undergraduate Honours Thesis

INSTRUCTIONS (OVERALL):

1. Using Microsoft Word draft changes using the following guideline. Paste in box below.
2. Rationale must be included. If more space is needed than provided below, please use the provided text box on page 2 of this document.
3. Indicate term = Fall, Spring, Summer

TYPE OF CHANGES RECOMMENDED

Please type 'X' for the appropriate revision(s):

	Course number	x	Credit	X	Title	X	Description	x	Prerequisite		Deletion

WORDING/DESCRIPTION EDITS

1. Indicate deleted or changed text using ~~strikethrough~~.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
   a. Students with credit for x cannot take y for further credit.

BPK 499 - Undergraduate Honours Thesis Reporting (~~12~~ 6)

A thesis based on research ~~previously~~ proposed in BPK ~~(or KIN)~~ 491 ~~497~~, and performed in BPK 495. Formal approval of the research topic is given by attaining a minimum grade of B in BPK ~~(or KIN)~~ 491 ~~497~~. Regulations regarding the locale of the work, supervision and other arrangements, follow those for BPK ~~(or KIN)~~ 491 ~~497~~. The written thesis should be submitted to the chair of the undergraduate program committee by the last day of exams of the term. The thesis will also be presented orally as a seminar in an open forum at the end of the term. A student may enroll for one other course concurrently with BPK 499 and BPK 495 with permission from the faculty honours supervisor ~~for BPK 499~~. Students with credit for KIN 499 may not repeat this course for credit. Prerequisite: BPK ~~(or KIN)~~ ~~497~~ 491. Corequisite: BPK 495. Only students in the honours program may

SAMPLE

POL 223 ~~Canadian~~ American Political Economy (3)

~~An introductory study of~~ America's ~~Canada's~~ political economy, stressing the interrelated nature of Canada's economic and political life. ~~The course~~ Focuses on current economic problems and policies, taking into account the geographical, historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism.

~~This course is identical to CNS 280 and students cannot take both courses for credit.~~
Students with credit for CNS 280 cannot take POL 223 for further credit.

~~Recommended~~ Pre-requisite: POL 100 or 101W.

Breadth – Social Sciences.

RATIONALE

If more space is needed, please use the provided text box on page 2 of this document

Currently, students are given a single grade for BPK 499 that applies to 12 credits of work. Splitting the 499 into two 6-credit courses (BPK 495 (6) and BPK 499(6)) will allow supervisors to allocate grades more specifically to the separate skills of the performance of research in the lab and the writing and presentation of the research in the thesis and oral defense. It will also provide more specific information about the student's independence, skills acquisition and ability to gather data in the laboratory and their ability to support, describe, justify and discuss their conclusions in the written and oral presentation of their work.

SPRING 2017

4. BPK Motion: Change in Biomedical Physiology Honours calendar

Rationale: Currently, students are given a single grade for BPK 499 that applies to 12 credits of work. Splitting the 499 into two 6-credit courses (BPK 495 (6) and BPK 499(6)) will allow supervisors to allocate grades more specifically to the separate skills of the performance of research in the lab and the writing and presentation of the research in the thesis and oral defense. It will also provide more specific information about the student's independence, skills acquisition and ability to gather data in the laboratory and their ability to support, describe, justify and discuss their conclusions in the written and oral presentation of their work.

Biomedical Physiology Honours (effective Fall 2016 calendar)

...

Upper Division Requirements

Students complete a minimum of 61 upper division units in the following courses, each of which must be completed with a grade of C- or higher.

Students complete all of

BPK 304W - Inquiry and Measurement in Biomedical Physiology and Kinesiology (3)
BPK 305 - Human Physiology I (3)
BPK 306 - Human Physiology II (Principles of Physiological Regulation) (3)
BPK 326 - Functional Anatomy (4)
BPK 407 - Human Physiology Laboratory (3)
BPK 491 - Undergraduate Honours Thesis Proposal (3)
~~BPK 497 - Undergraduate Honours Thesis Proposal (3)~~
~~BPK 499 - Undergraduate Honours Thesis (12)~~
BPK 495 – Undergraduate Honours Research Performance (6)
BPK 499 - Undergraduate Honours Thesis Reporting (6)
MBB 321 - Intermediary Metabolism (3)

...

5. BPK Motion: Change in Kinesiology Honours calendar language

Rationale: Currently, students are given a single grade for BPK 499 that applies to 12 credits of work. Splitting the 499 into two 6-credit courses (BPK 495 (6) and BPK 499(6)) will allow supervisors to allocate grades more specifically to the separate skills of the performance of research in the lab and the writing and presentation of the research in the thesis and oral defense. It will also provide more specific information about the student's independence, skills acquisition and ability to gather data in the laboratory and their ability to support, describe, justify and discuss their conclusions in the written and oral presentation of their work.

...

Kinesiology Honours (effective Fall 2016)

...

Upper Division Requirements
All of the following courses must be completed with a grade of C- or higher.
Upper Division Core
All students complete the following, including all of
BPK 304W - Inquiry and Measurement in Biomedical Physiology and Kinesiology (3) +
BPK 305 - Human Physiology I (3)
BPK 306 - Human Physiology II (Principles of Physiological Regulation) (3)
BPK 310 - Exercise/Work Physiology (3)
BPK 326 - Functional Anatomy (4)
BPK 340 - Active Health: Behavior and Promotion (3)
BPK 491 - Undergraduate Honours Thesis Proposal (3)
~~BPK 497 - Undergraduate Honours Thesis Proposal (3)~~
~~BPK 499 - Undergraduate Honours Thesis (12)~~
BPK 495 – Undergraduate Honours Research Performance (6)
BPK 499 - Undergraduate Honours Thesis Reporting (6)