



8888 University Drive, TEL: 778.782.4636 avpcio@sfu.ca  
 Burnaby, BC FAX: 778.782.5876 www.sfu.ca/vpacademic  
 Canada V5A 1S6

**MEMORANDUM**

<b>ATTENTION</b>	Senate	<b>DATE</b>	April 8, 2016
<b>FROM</b>	Gordon Myers, Chair Senate Committee on Undergraduate Studies	<b>PAGES</b>	1/2
<b>RE:</b>	Faculty of Science (SCUS 16-13)		

**For information:**

Acting under delegated authority at its meeting of April 7, 2016 SCUS approved the following curriculum revisions effective Spring 2017.

1. Department of Physics (SCUS 16-13a)

- (i) Prerequisite change for PHYS 421, 231, 133
- (ii) Minimum grade requirement changes to the Physics Minor program

2. Department of Biological Sciences (SCUS 16-13b)

- (i) New Course Proposal: BISC 360-3, Techniques in Ecology and Evolution
- (ii) W designation for BISC 360
- (iii) Requirement changes to the Ecology, Evolution and Conservation stream in the Biological Sciences Major and Honours programs.

3. Department of Earth Sciences (SCUS 16-13c)

- (i) Description change for EASC 107

4. Department of Biomedical Physiology and Kinesiology (SCUS 16-13d)

- (i) Professional transfer requirement changes in the Kinesiology Major and Biomedical Physiology Major programs
- (ii) Title and description change for BPK 496 and 498
- (iii) New Course Proposal: BPK 307-3, Human Physiology III

- (iv) Upper division requirement changes to the Biomedical Physiology Major and Honours programs
- (v) Upper division requirement changes to the Kinesiology Major and Honours programs
- (vi) Title, description or prerequisite changes for BPK 305 and 306
- (viii) Upper division requirement changes to the Biomedical Physiology Minor and the Kinesiology Minor programs



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

TEL 778.782.4590  
FAX 778.782.3424

sfu.ca/science

**MEMORANDUM**

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<b>ATTENTION</b>	Senate Committee for Undergraduate Studies, SFU	<b>DATE</b>	March 18, 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 April 2016 SCUS Meeting		

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**PHYSICS**

- Motion 1: PHYS 421 – Prereq change
- Motion 2: PHYS 231 – Prereq change
- Motion 3: PHYS 133 – Prereq change
- Motion 4: PHYS minor requirement change

**BIOLOGY**

- Motion 1: BISC 360 – New Course request
- Motion 2: Ecology, Evolution, and Conservation stream program requirement revision
- Motion 3: Biological Sciences Honours description change

**EARTH SCIENCES**

- Motion 1: EASC 107 – Course description change

**BPK**

- Motion 1: Calendar wording update for both the KIN and BPK Major programs
- Motion 2: BPK 496 – Course description and title change
- Motion 3: BPK 498 – Course description and title change
- Motion 4: BPK 307 – New Course request
- Motion 5: UD Course requirement updates for BPK Major and Honours
- Motion 6: UD Course requirement updates for KIN Major and Honours
- Motion 7: BPK 305 – Description change
- Motion 8: BPK 306 – Description, title and prereq change
- Motion 9: Add BPK 307 to list of elective courses for the Biomedical Physiology Minor Program
- Motion 10: Add BPK 458, HSCI 312, and GERO 407 to the list of UD options for the KIN Minor

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: March 4, 2016**

At its meeting of February 25, 2015, the Department of Physics approved the following curricular program changes:

**1. MOTION: To change the prerequisites to PHYS 421 to allow no substitutions for PHYS 321.**

Rationale: PHYS 221/321 are coded as equivalent courses, and Engineering students have increasingly been using 221 as a prerequisite to 421. The proposed change blocks this path. Additionally, the requirement of a C- grade for prerequisites is redundant and is removed.

**2. MOTION: To change the prerequisites to PHYS 231 to allow no substitutions for PHYS 130, 133, or 141.**

Rationale: Because PHYS 102, 121, 126, and 141 are coded as equivalent courses, any of the first three lecture courses can be used a prerequisite to 231, when only PHYS 141 has a lab component that is intended as the prerequisite equivalent to PHYS 130 or 133. This change blocks this route.

**3. MOTION: To change the prerequisites to PHYS 133 to add PHYS 140 and to allow no substitutions for PHYS 132 or 140 or ENSC 120.**

Rationale: First, this change adds PHYS 140 as a possible prerequisite, because its lab component is equivalent to PHYS 133. Second, since PHYS 101, 120, 125, and 140 are coded as equivalent courses, any of the first three lecture courses can be used a prerequisite to 133, leading to students enrolling without having taken any lab prerequisite. The addition of “no substitutions” blocks this route.

**4. MOTION: To change the PHYS minor requirements to a minimum CGPA of 2.0 and a UDCGPA of 2.0 in courses required for a minor.**

Rationale: SFU's calendar language is vague on the exact requirements of a minor regarding which GPA the minimum requirement applies to. This change clarifies that.

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  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.

PHYS 421 - Electromagnetic Waves (3)

A continuation of PHYS 321: properties of electromagnetic waves and their interaction with matter. Transmission lines and waveguides; antennas, radiation and scattering; propagation of electromagnetic waves in free space and in matter; reflection and refraction at boundaries; polarization, interference and diffraction. Students with credit for PHYS 324 or 425 may not take PHYS 421 for further credit. Prerequisite: PHYS 321 (no substitutions); PHYS 255 or ENSC 380, ~~with a minimum grade of C-~~. Quantitative.

**EFFECTIVE TERM AND YEAR FOR CHANGES**

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

**RATIONALE** (must be included)

PHYS 221/321 are coded as equivalent courses, and Engineering students have increasingly been using 221 as a prerequisite to 421. The proposed change blocks this path. Additionally the requirement of a C- grade for prerequisites is redundant and is removed.

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.

PHYS 231 - Physics Laboratory III (3)

Introduction to modern techniques in experimental physics, including computer-aided data acquisition, electronics, control theory, and statistical data analysis. Prerequisite: PHYS 130, 133, or 141 (no substitutions). Co-requisite: PHYS 255. Quantitative.

**EFFECTIVE TERM AND YEAR FOR CHANGES**

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

**RATIONALE** (must be included)

Because PHYS 102, 121, 126, and 141 are coded as equivalent courses, any of the first three lecture courses can be used a prerequisite to 231, when only PHYS 141 has a lab component that is intended as the prerequisite equivalent to PHYS 130 or 133. This change blocks this route.

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.

PHYS 133 - Physics Laboratory II (1)

Introduction to experimental physics with an emphasis on measurement and experimental design. Includes elementary experiments in electromagnetism and optics designed to support and enrich conceptual learning. PHYS 133 consists of 8 3-hour labs. Students with credit for PHYS 130, 131, or 141 may not take PHYS 133 for further credit. Prerequisite: PHYS 132 or 140 or ENSC 120 (no substitutions). Corequisite: PHYS 121 or 126. Quantitative.

**EFFECTIVE TERM AND YEAR FOR CHANGES**

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

Spring 2017

**RATIONALE (must be included)**

First, this change adds PHYS 140 as a possible prerequisite, because its lab component is equivalent to PHYS 133. Second, since PHYS 101, 120, 125, and 140 are coded as equivalent courses, any of the first three lecture courses can be used a prerequisite to 133, leading to students enrolling without having taken any lab prerequisite. The addition of "no substitutions" blocks this route.

**Motion** : To change the PHYS minor requirements to a minimum CGPA of 2.0 and a UDCGPA of 2.0 in courses required for a minor.

**Rationale:** SFU's calendar language is vague on the exact requirements of a minor regarding which GPA the minimum requirement applies to. This change clarifies that.

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## Physics Minor

### Minimum Grade Requirement

Students wishing to enroll in physics courses must obtain a C- grade or better in prerequisite courses.

Students must maintain a cumulative GPA of at least 2.0 in courses required for the minor, as well as a cumulative GPA of at least 2.0 in all upper division courses required for the minor.

### Program Requirements

Students complete a minimum of 14 upper division PHYS units, together with all the prerequisites for those courses.

Students will select a reasonable list of courses that must be approved by the Department of Physics.



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

March 5, 2016

ATTENTION: Carl Lowenberger,  
Associate Dean, Faculty of Science

**Motion 1:** To approve Techniques in Ecology and Evolution (BISC 360) as a new course.

**Rationale:** This will be a core required course in our revised Ecology, Evolution, and Conservation (EEC) stream. It will provide a strong foundation in practical methods, scientific methods, and writing. The course will be W certified, and will ensure that all EEC students have upper division writing credit in their stream. This new course is part of a shift away from organism-centered ecology courses (Animal Ecology, Plant Ecology) to concept-focused courses (Techniques in Ecology & Evolution, Community Ecology and Macroecology).

**Motion 2:** To revise the Ecology, Evolution, and Conservation stream program requirements.

**Rationale:** The proposed changes include the addition of a W-based methods course in EEC, and the replacement of Animal Ecology (BSIC 304W) and Plant Ecology (BISC 404W) with a single Community Ecology and Macroecology (BISC 420) course. These changes provide a stronger program, from both a methodological and conceptual framework. In addition, the proposed changes meet the College of Applied Biology accreditation requirements. This will be of benefit to graduates who wish to register as a Professional Biologist (RPBio designation), and further distinguishes our EEC stream from other programs at SFU.

**Motion 3:** To change the description of the Biological Sciences Honours.

**Rationale:** The following changes provide greater clarity on graduation requirements in addition to entry requirements. This description change, combined with changes to the ISS application form, will close current loopholes.

Sincerely,  
Erin Barley

BISC

COURSE SUBJECT

NUMBER 360

## COURSE TITLE

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

Techniques in Ecology and Evolution

## AND

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

Techniques in Ecol &amp; Evo

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 practical lab- and field-based introduction to techniques in ecology and evolution. Students will collect, analyze, and interpret data, using appropriate experimental design and statistical methods. Specific topics include: sampling and describing communities, evaluating spatial patterns, investigating animal behaviour, population estimation, estimating competition, and phylogenetic inference.

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)  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 will be a core required course in our revised Ecology, Evolution, and Conservation (EEC) stream. It will provide a strong foundation in practical methods, scientific methods, and writing. The course will be W certified, and will ensure that all EEC students have upper division writing credit in their stream. This new course is part of a shift away from organism-centered ecology courses (Animal Ecology, Plant Ecology) to concept-focused courses (Techniques in Ecology & Evolution, Community Ecology and Macroecology).

## SCHEDULING AND ENROLLMENT INFORMATION

Term and year course would first be offered (e.g. FALL 2014)  Spring 2017Term(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: 2 Lecture Seminar Tutorial 4 Lab Other - please explain

OTHER

Laboratory is 4 hours per week for 10 weeks

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

Dr Elizabeth Elle, Dr Wendy Palen, Dr David Green, Erin Barley

WQB DESIGNATION (attach approval from Curriculum Office)

W - Approved.

PREREQUISITE AND / OR COREQUISITE

Pre-requisites: BISC 202, BISC 204 (or GEOG 215), and STAT 201, 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 404 Plant Ecology may not take BISC 360 for further credit.

COURSE - LEVEL EDUCATIONAL GOALS (OPTIONAL)

- design appropriate methods to collect observational or experimental data to address hypotheses
critique methods in published scientific papers
perform statistical analyses of observational and experimental studies
present results as tables or figures
interpret results of experiments
read and critically evaluate ecological studies in the primary literature
provide a synthesis of the results obtained from a number of separate studies
introduce a hypothesis to be tested, citing literature appropriately
interpret findings and compare them to existing literature

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**

Erin Barley

## **BISC 360**

### **Course-Level Educational Goals (Optional)**

- **design appropriate methods to collect observational or experimental data to address hypotheses**
- **critique methods in published scientific papers**
- **perform statistical analyses of observational and experimental studies**
- **present results as tables or figures**
- **interpret results of experiments**
  
- **read and critically evaluate ecological studies in the primary literature**
- **provide a synthesis of the results obtained from a number of separate studies**
  
- **introduce a hypothesis to be tested, citing literature appropriately**
- **interpret findings and compare them to existing literature**



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**

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

**DATE** March 1, 2016

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

**PAGES** 1

**RE:** BISC W designation approval

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The University Curriculum Office has approved **W** designation for the following proposed BISC course, effective Spring 2017 (1171):

BISC 360 Techniques in Ecology and Evolution

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

cc: Erin Barley, UGC Chair, Department of Biological Sciences

**Rationale for change:**

The proposed changes include the addition of a W-based methods course in EEC, and the replacement of Animal Ecology (BISC 304W) and Plant Ecology (BISC 404W) with a single Community Ecology and Macroecology (BISC 420) course. These changes provide a stronger program, from both a methodological and conceptual framework. In addition, the proposed changes meet the College of Applied Biology accreditation requirements. This will be of benefit to graduates who wish to register as a Professional Biologist (RPBio designation), and further distinguishes our EEC stream from other programs at SFU.

Effective term and year: Spring 2017

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

Biological Sciences Major; Ecology, Evolution, and Conservation Stream  
Biological Sciences Honours; Ecology, Evolution, and Conservation Stream

**Calendar Change**

**Ecology, Evolution and Conservation Stream**

Students who choose this stream will complete both:

**STAT 302 - Analysis of Experimental and Observational Data (3)**

BISC 360W - Techniques in Ecology and Evolution (3)

and at least one additional organismal course from:

BISC 306 - Invertebrate Biology (4)

BISC 316 - Vertebrate Biology (4)

BISC 317 - Insect Biology (3)

BISC 326 - Biology of Algae and Fungi (3)

BISC 337 - Plant Biology (4)

and at least one of the following applied course from:

~~BISC 304W - Animal Ecology (3)~~

~~BISC 404W - Plant Ecology (3)~~

BISC 308 - Environmental Toxicology: An Ecological Perspective (3)

BISC 309 - Conservation Biology (3)

BISC 413 - Fisheries Ecology (3)

BISC 435 - Introduction to Pest Management (3)

and at least two conceptual courses from:

BISC 410 - Behavioral Ecology (3)

BISC 407 - Population Dynamics (3)

BISC 420 - Community Ecology and Macroecology (3)

BISC 422 - Population Genetics (3)

BISC 440W - Biodiversity (3)

and ~~four of~~ at least two additional stream electives from:

BISC 308 - Environmental Toxicology: An Ecological Perspective (3)

BISC 309 - Conservation Biology (3)

BISC 407 - Population Dynamics (3)

BISC 410 - Behavioral Ecology (3)

BISC 413 - Fisheries Ecology (3)

BISC 414 - Limnology (3)

~~BISC 419 - Wildlife Biology (3)~~

BISC 420 - Community Ecology and Macroecology (3)

BISC 422 - Population Genetics (3)

BISC 434 - Paleoecology and Palynology (3)

BISC 435 - Introduction to Pest Management (3)

BISC 440W - Biodiversity (3)

BISC 441 - Evolution of Health and Disease (3)

BISC 445 - Environmental Physiology of Animals (3)

BISC 473 - Special Topics in Ecology, Evolution and Conservation (3)

BISC 474 - Special Topics in Ecology, Evolution and Conservation (3)

~~BISC 475 - Special Topics in Biology (3)~~

BISC 497W - Undergraduate Research: Writing Intensive (3)

BISC 498 - Undergraduate Research I (3)

BISC 499 - Undergraduate Research II (3)

and ~~two~~ three elective courses (~~six~~ nine or more units) chosen from any upper division undergraduate BISC courses. Courses from other units at Simon Fraser University such as the Faculty of Environment and MASC courses may count as options toward this stream, subject to approval by the department. Normally no more than two courses from other units and no more than three research intensive courses (BISC 490, 491, 492, 497W, 498, or 499) may be used to satisfy stream requirements and additional upper division biology course requirements. Students complete a total of five lab courses (which may include one of BISC 497W, 498, 499) among their upper division courses.

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.

An overview of ~~the Earth's major economic resources of the Earth for non-Earth Science majors or minors. Background Topics will be provided on~~ include major Earth geologic processes which cause produce significant natural resources including ~~metallic resources~~ metals, hydrocarbons and other energy resources, industrial ~~mineral~~ minerals, and groundwater ~~resources~~. Emphasis will be placed on relations between earth sciences and aspects of economics, business, history, politics, and environmental issues. Much of the focus will be on the changing nature of resource exploration and extraction, ~~how resources have been found and exploited, through history~~ and how this may evolve in the near to distant future. Students may not use **EASC 107** for credit towards ~~e~~Earth ~~s~~Sciences major or minor program requirements. Breadth-Science.

**EFFECTIVE TERM AND YEAR FOR CHANGES**

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

**RATIONALE** (must be included)

The original description was overly wordy, awkward and vague.



Department of  
Biomedical Physiology and Kinesiology  
Faculty of Science

March 2, 2016

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

BPK Motions for FSUCC – March 11, 2016 – Ryan Dill as approved by the BPK Department at its meetings of January 21, 2016 and February 25, 2016.

**1. BPK MOTION:** Change the calendar statement regarding Professional Transfer requirements for the Kinesiology Major and Biomedical Physiology Major programs to the following.

**Rationale:** Early acceptance to professional school is occurring more frequently. Our proposed changes provide more flexibility and opportunity for our students to obtain a BPK degree after early acceptance. They are also more in line with the current practice in other Faculty of Science Departments.

**2. BPK MOTION:** Change the course description and title for BPK 496 – Directed Study I to allow for the course to be repeated once with a different supervisor.

**Rationale:** Currently students may only take BPK 496 once and BPK 498 once. We would like to provide students with the flexibility to take BPK 496 twice or BPK 498 twice. We would still only allow a total of six credits to count towards their degree. We would also only allow the course to be taken the second time with a different faculty member to provide breadth of experience in their degree.

**3. BPK MOTION:** Change the course description and title for BPK 498 – Directed Study II to allow for the course to be repeated once with a different supervisor.

**Rationale:** Currently students may only take BPK 496 once and BPK 498 once. We would like to provide students with the flexibility to take BPK 496 twice or BPK 498 twice. We would still only allow a total of six credits to count towards their degree. We would also only allow the course to be taken the second time with a different faculty member to provide breadth of experience in their degree.

BPK Motions for FSUCC – March 2016 – Ryan Dill

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1. **BPK MOTION:** Change the calendar statement regarding Professional Transfer requirements for the Kinesiology Major and Biomedical Physiology Major programs to the following.

**Rationale:** Early acceptance to professional school is occurring more frequently. Our proposed changes provide more flexibility and opportunity for our students to obtain a BPK degree after early acceptance. They are also more in line with the current practice in other Faculty of Science Departments.

Kinesiology Major / Biomedical Physiology Major

...

Professional School Transfer

Students are eligible to receive a bachelor of science (BSc) degree after the completion of their second year of professional study if they have completed at least 90 units of Simon Fraser University credit normally comprising the following:

all lower division requirements

~~27 the upper division core requirements for their major units in biomedical physiology and kinesiology (including BPK 304W, 305, 306, and 326)~~

acceptance into an accredited professional program in dentistry, medicine, optometry, chiropractic, or veterinary medicine

Professional program courses must not duplicate those already completed at Simon Fraser University and must be acceptable for transfer credit to the University. Candidates apply for transfer credit and for receipt of the degree through Student Services.

COURSE SUBJECT  NUMBER  TITLE

**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	Prerequisite	Deletion
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**WORDING/DESCRIPTION EDITS**

1. Indicate deleted or changed text using striketrough.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
  - a.

**BPK 496 – Directed Study-I (Literature)**  
 Directed reading and literature research on topics selected in consultation with the supervising instructor. ~~This course may not be repeated for additional credit.~~ A short proposal of the project, approved by the course supervisor, must be submitted for approval to the chair of the undergraduate program committee by the end of the first week of classes of the term. May be repeated once for credit with a different course supervisor. ~~Students with credit for KIN 496 may not repeat this course for credit.~~ Prerequisite: BPK (or KIN) 304W (may be taken concurrently) or **PSYC 210**, and permission from the chair of the undergraduate program committee. Usually, upper level standing with at least 75 units in the Biomedical Physiology and Kinesiology program will be required.

**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

**EFFECTIVE TERM AND YEAR, FOR CHANGES**

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

Spring 2017

**RATIONALE**

COURSE SUBJECT  NUMBER  TITLE

**INSTRUCTIONS (OVERALL):**

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**TYPE OF CHANGES RECOMMENDED**

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Course number	Credit	X	Title	X	Description	Prerequisite	Deletion
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**WORDING/DESCRIPTION EDITS**

1. Indicate deleted or changed text using striketrough.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
  - a.

**BPK 498 – Directed Study II (Experiential)**  
 Directed study and research selected in consultation with the supervising instructor. A short proposal of the project approved by the course supervisor, must be submitted for approval to the chair of the undergraduate program committee by the end of the first week of classes of the term. May be repeated once for credit with a different course supervisor. Students with credit for KIN 498 may not take this course for further credit. Prerequisite: BPK (or KIN) 304W (may be taken concurrently) or **PSYC 210**, and permission from the chair of the undergraduate program committee. Usually, upper level standing with at least 75 units in the Biomedical Physiology and Kinesiology program will be required.

**SAMPLE**

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 Breadth – Social Sciences.

**RATIONALE**

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

**EFFECTIVE TERM AND YEAR, FOR CHANGES**

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

Spring 2017

**RATIONALE**

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**

A detailed examination of the physiology and pathophysiology of the gastrointestinal, renal, endocrine, immune and reproductive systems. The course focuses on integration of physiological mechanisms at the molecular, cellular and systems levels.

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

The department of BPK has undergone an extensive review of the physiology content required for our majors in biomedical physiology and kinesiology. This has involved a detailed comparison to other physiology programs and an exhaustive analysis of learning outcomes recommended by the American Physiological Society. The result of this process is the recommended changes to BPK 305 and 306 and the introduction of the proposed course BPK 307. Two thirds of the content for BPK 307 is being ported from BPK 305 (Renal) and 306 (Endocrine and GI). This will allow for expanded review of the remaining topics in those courses, and the addition of skeletal muscle physiology to BPK 306 for our Kinesiology majors, and the addition of reproductive physiology to BPK 307. BPK 307 will be required in the Biomedical Physiology Major/Honours, and an elective in the Kinesiology Major/Honours and Biomedical Physiology Minor.

**SCHEDULING AND ENROLLMENT INFORMATION**

Term and year course would first be offered (e.g. FALL 2014) and planned frequency (e.g. each semester) of offering thereafter:

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?

Victoria Claydon  
William Cupples

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

**PREREQUISITE AND / OR COREQUISITE**

Prerequisite BPK (or KIN) 305, Co-requisite BPK (or KIN) 306. Majors from outside BPK require BPK (or KIN) 205 (or BISC 305), MBB 231 (or 201), MATH 155 or 152 plus permission of the instructor.

**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?

N/A

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

At the end of this course you will be able to use the information learned and skills acquired in the course to: 1) Predict the consequences for fluid balance of altered intake/output of fluid or electrolytes. Explain how the body responds to the resulting imbalances at multiple organizational levels.  
2) Predict how an organism will respond to acute and chronic changes in the availability of nutrients. Explain how the body responds to the resulting imbalances at multiple organizational levels.  
3) Explain how the renal, gastrointestinal, and reproductive systems are regulated locally and systemically.

**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. No space issues. Library holdings are sufficient.

**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**

Ryan Dill

5. **BPK MOTION:** Change the Upper Division Requirements to add BPK 307 – Human Physiology III (3) as a required course for the Biomedical Physiology Major and Honours programs; Add BPK 458 – Prevention and Management of Cardiovascular Disease(3) to the Biomedical Physiology Major and Honours Programs as specific elective and allow Biomedical Physiology Major and Honours students to take a maximum of six credits from BPK 496 Directed Studies I (3) and BPK 498 Directed Studies II (3)

**Rationale:** The department of BPK has undergone an extensive review of the physiology content required for our majors in biomedical physiology and kinesiology. This has involved a detailed comparison to other physiology programs and an exhaustive analysis of learning outcomes recommended by the American Physiological Society. The result of this process is the recommended changes to BPK 305 and 306 and the introduction of the proposed course BPK 307. Two thirds of the content for BPK 307 is being ported from BPK 305 (Renal) and 306 (Endocrine and GI). This will allow for expanded review of the remaining topics in those courses, and the addition of skeletal muscle physiology to BPK 306 for our Kinesiology majors, and the addition of reproductive physiology to BPK 307. BPK 307 will be required in the Biomedical Physiology Major/Honours, and an elective in the Kinesiology Major/Honours and Biomedical Physiology Minor.

BPK 458 is relevant to Biomedical Physiology and should be added to increase the options available to Biomedical Physiology students for timely degree completion.

Currently students may only take BPK 496 once and BPK 498 once. We would like to provide students with the flexibility to take BPK 496 twice or BPK 498 twice. We would still only allow a total of six credits to count towards their degree. We would also only allow the course to be taken the second time with a different faculty member to provide breadth of experience in their degree.

**Biomedical Physiology Major / Honours  
Upper Division Requirements**

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 307 – Human Physiology III (3)  
BPK 326 - Functional Anatomy (4)  
BPK 407 - Human Physiology Laboratory (3)

...

and ~~seven~~ six of

BPK 301 - Biomechanics Laboratory (3)

BPK 308 - Experiments and Models in Systems Physiology (3)

...

BPK 448 - Rehabilitation of Movement Control (3)

BPK 458 – Prevention and Management of Cardiovascular Disease(3)

BPK 484 - Altitude and Aerospace Physiology (3)

~~BPK 496 – Directed Study I (3) \*~~

~~BPK 498 – Directed Study II (3) \*~~

A maximum of six credits from the following may be used towards the above requirements

BPK 496 - Directed Study I (3)

BPK 498 - Directed Study II (3)

and three upper division units from any faculty.

...

6. BPK MOTION: Change the Upper Division Requirements to add BPK 307, BPK 458 and BPK 482 to the list of upper division options for the Kinesiology Major and Honours - Active Health and Rehabilitation Concentrations as specific electives and change the Upper Division requirements to allow Kinesiology Major and Honours students to take a maximum of six credits from BPK 496 Directed Studies I (3) and BPK 498 Directed Studies II (3)

BPK 307, BPK 458 and BPK 482 courses are relevant to Kinesiology and should be added to increase the options available to Kinesiology students for timely degree completion.

Currently students may only take BPK 496 once and BPK 498 once. We would like to provide students with the flexibility to take BPK 496 twice or BPK 498 twice. We would still only allow a total of six credits to count towards their degree. We would also only allow the course to be taken the second time with a different faculty member to provide breadth of experience in their degree.

Kinesiology Major / Honours  
Upper Division Requirements  
Active Health and Rehabilitation Concentration

...

and four of

BPK 307 – Human Physiology III (3)

BPK 308 - Experiments and Models in Systems Physiology (3)

BPK 311 - Applied Human Nutrition (3)

...

BPK 448 - Rehabilitation of Movement Control (3)

BPK 458 – Prevention and Management of Cardiovascular Disease(3)

BPK 461 - Physiological Aspects of Aging (3)

BPK 481 - Musculoskeletal Disorders (3)

BPK 482 – Ergonomics and Rehabilitation (3)

~~BPK 496 – Directed Study I (3) ^~~

~~BPK 498 – Directed Study II (3) ^~~

A maximum of six credits from the following may be used towards the above requirements

BPK 496 - Directed Study I (3) ^

BPK 498 - Directed Study II (3) ^

...

COURSE SUBJECT  NUMBER  TITLE

**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	X	Prerequisite	Deletion
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**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.

~~Deals with~~ **A detailed examination of the** physiology and pathophysiology of the **cardiac, vascular and cardiovascular, respiratory, and renal systems in detail. The course focuses on integration of physiological mechanisms at the molecular, cellular and systems levels.** Students with credit for KIN 305 may not take this course for further credit. Prerequisite: BPK (or KIN) 205, MBB 231 (or 201), MATH 155 (or 152). ~~Non-majors~~ **Majors from outside BPK** require BPK (or KIN) 205 (or BISC 305), MBB 231 (or 201), **MATH 155 (or 152)** plus permission of the instructor.

**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

**EFFECTIVE TERM AND YEAR, FOR CHANGES**

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

Fall 2017

**RATIONALE**

More space if needed.

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COURSE SUBJECT  NUMBER  TITLE

**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):

<input type="checkbox"/>	Course number	<input type="checkbox"/>	Credit	<input checked="" type="checkbox"/>	X	Title	<input checked="" type="checkbox"/>	X	Description	<input checked="" type="checkbox"/>	X	Prerequisite	<input type="checkbox"/>	Deletion
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**WORDING/DESCRIPTION EDITS**

1. Indicate deleted or changed text using striketrough.
2. Indicate added or new text using underline.
3. Equivalent courses: preclusion statement should read:
  - a.

BPK 306 - Human Physiology II (~~Principles of Physiological Regulation~~) (3)  
A detailed examination of the physiology and pathophysiology of the nervous system, skeletal muscle and connective tissue Examines the regulation of body functions with an emphasis on the endocrine, gastrointestinal and neuronal systems. The course focuses on integration of physiological mechanisms at the molecular, cellular and organ systems levels. ~~Examples of abnormal human physiology are used to illustrate important principles.~~ Students with credit for KIN 306 may not take this course for further credit. Prerequisite: REQ-BPK (or KIN) 205, 207, Co-requisite BPK 305 MBB 231 (or 201), MATH 155 (or 152). Non-majors Majors from outside BPK require BPK (or KIN) 205 (or BISC 305), MBB 231 (or 201), MATH 155 (or 152) plus permission of the instructor.

**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

**EFFECTIVE TERM AND YEAR, FOR CHANGES**

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

**RATIONALE**

More space if needed.

The department of BPK has undergone an extensive review of the physiology content required for our majors in biomedical physiology and kinesiology. This has involved a detailed comparison to other physiology programs and an exhaustive analysis of learning outcomes recommended by the American Physiological Society. The result of this process is the recommended changes to BPK 305 and 306 and the introduction of the proposed course BPK 307. Two thirds of the content for BPK 307 is being ported from BPK 305 (Renal) and 306 (Endocrine and GI). This will allow for expanded review of the remaining topics in those courses, and the addition of skeletal muscle physiology to BPK 306 for our Kinesiology majors, and the addition of reproductive physiology to BPK 307. BPK 307 will be required in the Biomedical Physiology Major/Honours, and an elective in the Kinesiology Major/Honours and Biomedical Physiology Minor.

9. BPK MOTION: Add BPK 307 – Human Physiology III (3) to the list of elective courses for the Biomedical Physiology Minor Program.

Biomedical Physiology Minor

...

Upper Division Requirements

...

and two of

(note that some classes may require additional pre-requisites):

BPK 304W - Inquiry and Measurement in Biomedical Physiology and Kinesiology (3) ++

BPK 307 – Human Physiology III (3)

BPK 310 - Exercise/Work Physiology (3)

BPK 336 - Histology (3)

...

10. BPK MOTION: Add BPK 458 – Prevention and Management of Cardiovascular Disease(3), HSCI 312- Health Promotion: Individuals and Communities (3) and GERO 407 - Nutrition and Aging (3) to the list of upper division options for the Kinesiology Minor.

Rationale : These courses are relevant to Kinesiology and should be added to increase the options available to Kinesiology Minor students for timely degree completion.

Kinesiology Minor  
Program Requirements

...

And four of

BPK 301 – Biomechanics Laboratory (3)

...

BPK 458 – Prevention and Management of Cardiovascular Disease(3)

BPK 461 – Physiological Aspects of Ageing (3)

GERO 407 – Nutrition and Aging (3)

HSCI 312 – Health Promotion: Individuals and Communities (3)

...