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MEMORANDUM

ATTENTION	Senate	DATE	May 5, 2017
FROM	Mark Lechner, Acting Chair Senate Committee on Undergraduate Studies	PAGES	1/2
RE:	Program Changes		

For information:

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

a. Faculty of Applied Sciences (SCUS 17-22a)

1. School of Computing Science

- (i) Admission Computing Related Grade Point Average change (CRGPA) to the Computing Science Major and Honours program
- (ii) Admission Computing Related Grade Point Average change (CRGPA) to the Software Systems Major program

b. Faculty of Communication, Art and Technology (SCUS 17-22b)

1. School for the Contemporary Arts

- (i) Lower and Upper division requirement changes to the BFA in Theatre Major and Honours programs (Performance Stream)

c. Faculty of Science (SCUS 17-22c)

1. Department of Biological Sciences

- (i) Upper division requirement changes to the Biological Sciences Major and Honours programs

2. Department of Biomedical Physiology and Kinesiology

- (i) Upper division requirement changes to the BPK Honours programs**
- (ii) Upper division and admission requirement changes to the BPK Major and Minor programs**
- (iii) Upper division requirement changes to the Kinesiology Honours and Major programs**
- (iv) Admission requirement changes to the Kinesiology Minor program**

3. Department of Earth Sciences

- (i) Lower division requirement changes to the EASC Major and Honours programs**

4. Department of Molecular Biology and Biochemistry

- (i) Requirement changes to the Genomics Certificate**
- (ii) Upper Division Requirement change to the MBB Majors and Honours programs**

Revision to Computing Science Major

John Edgar

April 2017

Description

Change calculation of Computing Related Grade Point Average (CRGPA)

Rationale

The CRGPA is used (with CGPA) to assess internal transfer applications. The calculation of this is to be changed as follows:

1. Allow only one Mathematics course to be included in the calculation to give a greater emphasis on completion of Computing courses.
2. Remove all first programming courses from the list to ensure consistency, and ensure that students have demonstrated proficiency in a more formal treatment of first year CMPT topics.
3. This second change also forces all applicants to have taken at least one second year CMPT course which should result in the CRGPA measure being more consistent.
4. Remove courses that are no longer offered.

Effective Term and Year

Fall 2017

Admission Requirements

Internal Transfer

~~Internal transfer allows students to transfer, within Simon Fraser University, from one faculty to another. Once students have completed the 3 qualifying courses they can apply for internal transfer into the School of Computing Science. Simon Fraser University students applying for School of Computing Science admission are selected on the basis of an admission Computing Related Grade Point Average. The CRGPA is calculated over the best three courses chosen as follows.~~

- ~~• one mathematics course chosen from: MACM 101, 201, MATH 150 (or 151), 152 and 240 (or 232)~~
- ~~• one computing course chosen from: CMPT 125 (or 126 or 128, 130 or 135), 150, (or ENSC 150), 225, 250 (or ENSC 250) and 275 (or 276).~~

~~• one additional mathematics or computing science course chosen from the above lists~~
No course may be included in the average if it is a duplicate of any previous course completed at Simon Fraser University or elsewhere. All three courses must be completed prior to application. For more information, contact an [Applied Sciences Advisor](#).

Internal transfer allows students to transfer, within Simon Fraser University, from one faculty to another. Simon Fraser University students applying for School of Computing Science admission are selected on the basis of an admission Computing Related Grade Point Average (CRGPA) and Cumulative Grade Point Average (CGPA). The CRGPA is calculated over the best three courses chosen as follows.

- two computing courses chosen from: {CMPT 125, 129 or 135}, CMPT 225, {CMPT 275 or 276}, CMPT 295
- one mathematics course chosen from: MACM 101, MACM 201, {MATH 150 or 151}, MATH 152, {MATH 232 or 240}

No course may be included in the average if it is a duplicate of any previous course completed at Simon Fraser University or elsewhere. All three courses must be completed prior to application.

The average for admission based on internal transfer is competitive and the school sets a competitive average each semester.

The CRGPA minimum average is 2.67 and the CGPA minimum average is 2.4 - the competitive averages will never be below these minima.

Revision to Computing Science Honours

John Edgar

April 2017

Description

Change calculation of Computing Related Grade Point Average (CRGPA)

Rationale

The CRGPA is used (with CGPA) to assess internal transfer applications. The calculation of this is to be changed as follows:

1. Allow only one Mathematics course to be included in the calculation to give a greater emphasis on completion of Computing courses.
2. Remove all first programming courses from the list to ensure consistency, and ensure that students have demonstrated proficiency in a more formal treatment of first year CMPT topics.
3. This second change also forces all applicants to have taken at least one second year CMPT course which should result in the CRGPA measure being more consistent.
4. Remove courses that are no longer offered.

Effective Term and Year

Fall 2017

Admission Requirements

Internal Transfer

~~Internal transfer allows students to transfer, within Simon Fraser University, from one faculty to another. Once students have completed our 3 qualifying courses (see below) they can apply for internal transfer into the School of Computing Science. Simon Fraser University students applying for School of Computing Science admission are selected on the basis of an admission computing-related grade point average (CRGPA). The CRGPA is calculated over the best three courses chosen as follows.~~

- ~~• one mathematics course chosen from MACM 101, 201, MATH 150 (or 151), 152 and 240 (or 232)~~
- ~~• one computing course chosen from CMPT 125 (or 126, 128, 130 or 135), 150, (or ENSC 150), 225, 250 (or ENSC 250) and 275 (or 276)~~

~~• one additional mathematics or computing science course chosen from the above lists~~
No course may be included in the average if it is a duplicate of any previous course completed at Simon Fraser University or elsewhere. All three courses must be completed prior to application. For complete information, contact an [Applied Sciences Advisor](#).

Internal transfer allows students to transfer, within Simon Fraser University, from one faculty to another. Simon Fraser University students applying for School of Computing Science admission are selected on the basis of an admission Computing Related Grade Point Average (CRGPA) and Cumulative Grade Point Average (CGPA). The CRGPA is calculated over the best three courses chosen as follows.

- two computing courses chosen from: {CMPT 125, 129 or 135}, CMPT 225, {CMPT 275 or 276}, CMPT 295
- one mathematics course chosen from: MACM 101, MACM 201, {MATH 150 or 151}, MATH 152, {MATH 232 or 240}

No course may be included in the average if it is a duplicate of any previous course completed at Simon Fraser University or elsewhere. All three courses must be completed prior to application.

The average for admission based on internal transfer is competitive and the school sets a competitive average each semester.

The CRGPA minimum average is 2.67 and the CGPA minimum average is 2.4 - the competitive averages will never be below these minima.

Revision to Software Systems Major

John Edgar

April 2017

Description

1. Change calculation of Computing Related Grade Point Average (CRGPA)
 - a. Allow only one Mathematics course to be included in the calculation
 - b. Remove all first programming courses from the list
 - c. Remove courses that are no longer offered
2. Add depth requirement to bring upper division credit requirements to 36 units

Rationale

1. The CRGPA is used (with CGPA) to assess internal transfer applications
 - a. Allowing only one Mathematics course to be included in the calculation gives a greater emphasis on completion of Computing courses
 - b. Removing all first programming courses from the list improves consistency of the measure, and ensure that students have demonstrated proficiency in a more formal treatment of first year CMPT topics. This change also forces all applicants to have taken at least one second year CMPT course which, again, should result in the CRGPA measure being more consistent.
2. The requirement was removed in error as part of an earlier change to remove a specialization requirement.

Effective Term and Year

Fall 2017

Admission Requirements

Internal Transfer

~~Internal transfer allows students to transfer, within Simon Fraser University, from one faculty to another. Once students have completed our three qualifying courses (see below) they can apply for internal transfer into the School of Computing Science. Simon Fraser University students applying for School of Computing Science admission are selected on the basis of an admission~~

~~computing-related grade point average (CRGPA). The CRGPA is calculated over the best three courses chosen as follows.~~

- ~~• one mathematics course chosen from MACM 101, 201, MATH 150 (or 151), 152 and 240 (or 232)~~
- ~~• one computing course chosen from CMPT 125 (or 126, 128, 130 or 135), 150, (or ENSC 150), 225, 250 (or ENSC 250) and 275 (or 276).~~
- ~~• one additional mathematics or computing science course chosen from the above lists~~

~~No course may be included in the average if it is a duplicate of any previous course completed at Simon Fraser University or elsewhere. All three courses must be completed prior to application. For more information, contact an Applied Sciences advisor.~~

Internal transfer allows students to transfer, within Simon Fraser University, from one faculty to another. Simon Fraser University students applying for School of Computing Science admission are selected on the basis of an admission Computing Related Grade Point Average (CRGPA) and Cumulative Grade Point Average (CGPA). The CRGPA is calculated over the best three courses chosen as follows.

- two computing courses chosen from: {CMPT 125, 129 or 135}, CMPT 225, {CMPT 275 or 276}, CMPT 295**
- one mathematics course chosen from: MACM 101, MACM 201, {MATH 150 or 151}, MATH 152, {MATH 232 or 240}**

No course may be included in the average if it is a duplicate of any previous course completed at Simon Fraser University or elsewhere. All three courses must be completed prior to application.

The average for admission based on internal transfer is competitive and the school sets a competitive average each semester.

The CRGPA minimum average is 2.67 and the CGPA minimum average is 2.4 - the competitive averages will never be below these minima.

Depth Requirement

Students must complete nine additional CMPT or MACM units at the 300 or 400 level. In order to meet their program requirements, students must have completed at least nine CMPT or MACM units at the 400 ~~division~~ level.

**Calendar Entry Change****Name of Program or Name of Faculty**

Rationale for change:

BFA in Theatre Performance: Acknowledges courses removed from requirement (CA 129, CA 150), courses added to requirements (CA 152, CA 153), one unit change (CA 254), and several title changes.

Honours BFA in Theatre Performance: Acknowledges the changes to the BFA (above), reduces the total units required for students (from 132 to 120), adds three upper division CA course requirements – each accessed by audition or interview. Although reducing the overall credits, the changes make the Honours in BFA Performance more rigorous.

Effective term and year: **Fall, 2018**

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

Only the theatre program.

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

Please see attached sheets.

THEATRE PERFORMANCE BFA and HONOURS BFA REVISIONS

PERFORMANCE BFA
Students complete 120 units, as specified below.
Lower Division Requirements
Students complete a minimum of 43 units including:
Four core courses below: [12] CA 149 - Sound (3) CA 186 - Art and the Moving Image (3) CA 285 - Composition / Collaboration (3) Plus one additional CA history course outside the major.
and all of [27] CA 129 - Movement Fundamentals (3) CA 150 - Introduction to Acting I (3) CA 250 - Acting I (3) CA 251 - Acting II (3) CA 252 - Playmaking I (3) CA 253 - Playmaking II (3) CA 254 - Theatre Laboratory I (2) CA 255 - Theatre Laboratory II (4) CA 257W - Context of Theatre I (3)
and two of [6] CA 170 - Intro to Production Technology (3) CA 171 - Intro to Stage/Production Management (3) CA 270 - Production Ensemble I (6) CA 271 - Production Ensemble II (6)
Upper Division Requirements
Students complete a minimum of 33 units, including all of [13] CA 350 - Acting III (3) CA 351 - Acting IV (3) CA 354 - Theatre Laboratory III (2) CA 355 - Theatre Laboratory IV (2) CA 357W - Context of Theatre II (3)
plus an additional 20 units of upper division credit. No more than eight upper division units from outside CA may be used toward the major.
[78 of 120]

PERFORMANCE BFA
Students complete 120 units, as specified below.
Lower Division Requirements
Students complete the following:
Four core courses below [12] CA 149 - Sound (3) CA 186 - Art and Moving Image (3) CA 285 - Composition / Collaboration (3) Plus one additional CA history course outside the major. (3)
and all of [29] CA 152 - Acting I: Thinking as an Artist (3) CA 153 - Acting II: Playing with Form (3) CA 250 - Acting III: Composing through Materials (3) CA 251 - Acting IV: Text as Action (3) CA 252 - Playmaking (3) CA 253 - BlackBox Playmaking (3) CA 254 - Voice / Movement I (4) CA 255 - Voice / Movement II (4) CA 257W - Context of Theatre I (3)
and two of [6] CA 170 - Intro to Production Technology (3) CA 171 - Intro to Stage / Production Management (3) CA 270 - Production Ensemble I (6) CA 271 - Production Ensemble II (6)
Upper Division Requirements
Students complete the following [13] CA 350 - Acting V: Text in Dramatic Forms (3) CA 351 - Acting VI: Artist in Ensemble Process (3) CA 354 - Voice / Movement III (2) CA 355 - Voice / Movement IV (2) CA 357W - Context of Theatre II (3)
plus an additional 20 units of upper division credit. No more than eight upper division units from outside CA may be used toward the major.
[80 of 120]

THEATRE PERFORMANCE BFA and HONOURS BFA REVISIONS

PERFORMANCE HONOURS BFA
Students complete 132 units, as specified below.
Lower Division Requirements
Students complete a minimum of 43 units including:
<p>Four core courses below: [12] CA 149 - Sound (3) CA 186 - Art and the Moving Image (3) CA 285 - Composition/Collaboration (3) Plus one additional CA history course outside the major.</p>
<p>and all of [30] CA 129 - Movement Fundamentals (3) CA 170 - Intro to Production Technology (3) CA 150 - Introduction to Acting I (3)</p> <p>CA 250 - Acting I (3) CA 251 - Acting II (3) CA 252 - Playmaking I (3) CA 253 - Playmaking II (3) CA 254 - Theatre Laboratory I (2) CA 255 - Theatre Laboratory II (4) CA 257W - Context of Theatre I (3)</p>
<p>and one of [3]</p> <p>CA 171 - Intro to Stage/Production Management (3) CA 270 - Production Ensemble I (6) CA 271 - Production Ensemble II (6)</p>
Upper Division Requirements
<p>Students complete a minimum of 45 units, including all of [17] CA 350 - Acting III (3) CA 351 - Acting IV (3) CA 354 - Theatre Laboratory III (2) CA 355 - Theatre Laboratory IV (2) CA 357W - Context of Theatre II (3) CA 453 - Theory / Practice of Directing (4)</p>
<p>plus an additional 28 units of upper division credit A maximum of 8 upper division units outside CA.</p>
<p>and a minimum of 20 units chosen from CA upper division courses (placement in courses is based on prerequisite and/or permission of the instructor).</p>
[110- of 132]

PERFORMANCE HONOURS BFA
Students complete 120 units, as specified below.
Lower Division Requirements
Students complete the following:
<p>Four core courses below [12] CA 149 - Sound (3) CA 186 - Art and Moving Image (3) CA 285 - Composition / Collaboration (3) Plus one additional CA history course outside the major. (3)</p>
<p>and all of [29]</p> <p>CA 152 - Acting I: Thinking as an Artist (3) CA 153 - Acting II: Playing with Form (3) CA 250 - Acting III: Composing through Materials (3) CA 251 - Acting IV: Text as Action (3) CA 252 - Playmaking (3) CA 253 - BlackBox Playmaking (3) CA 254 - Voice / Movement I (4) CA 255 - Voice / Movement II (4) CA 257W - Context of Theatre I (3)</p>
<p>and two of [6] CA 170 - Intro to Production Technology (3) CA 171 - Intro to Stage / Production Management (3) CA 270 - Production Ensemble I (6) CA 271 - Production Ensemble II (6)</p>
Upper Division Requirements
<p>Students complete a minimum of 48 CA units, including all of CA 350 - Acting V: Text in Dramatic Forms (3) CA 351 - Acting VI: Artist in Ensemble Process (3) CA 354 - Voice / Movement III (2) CA 355 - Voice / Movement IV (2) CA 357W - Context of Theatre II (3) CA 453 - Directing / Performance (4) CA 353 - BlackBox Performance (4) CA 450 - Mainstage Performance (4) CA 457 - Context of Theatre III (4) (plus an additional 19 upper division CA units)</p>
<p>plus an additional 25 units of upper division credit. [95 of 120]</p>

Theatre Performance BFA Requirements/Electives Flow Chart

	INTERDISCIPLINARY	VOICE / MOVEMENT	ACTING	PLAYMAKING	HISTORY/THEORY
1 S T Y E A R	CA 149 (3) Sound (spring) CA 186 (3) Moving Image (fall) CA 285 (3) Collaboration One CA (3) history course		CA 152 (3) – fall I: Thinking as an Artist Prereq: audition		
	Two of (fall & spring) CA 170 (3) Production CA 171 (3) Stage Management CA 270 (6) Production Ensemble CA 271 (6) Production Ensemble		CA 153 (3) – spring II: Playing with Form Prereq: CA 152		
2 N D		CA 254 (4) – fall Voice / Movement I Coreq: CA 250	CA 250 (3) – fall III: Composing through Materials Prereq: CA 153	CA 252 (3) – usually spring Playmaking Prereq: CA 150 or 152 or 153	CA 257W (3) – fall Context of Theatre I
		CA 255 (4) – spring Voice / Movement II Coreq: CA251	CA 251 (3) – spring IV: Text as Action Prereq: CA 250	253 (3) – fall BlackBox Playmaking Prereq: CA 150 or 152 or 153	CA 357W (3) – fall Context of Theatre II
3 R D & B E Y O N D	20 additional upper division credits, no more than 8 units outside CA	CA 354 (2) – fall Voice / Movement III Coreq: CA 350	CA 350 (3) – fall V: Text in Dramatic Forms Prereq: CA 251 + core	CA 352 (3) – fall Mainstage Playmaking Prereq: CA 251	CA 359 – fall/spring Special Topics Prereq: CA 250, or approval from instructor
		CA 355 (2) – spring Voice / Movement IV Coreq: CA 351	CA351 (3) - spring VI: Artist in Ensemble Process Prereq: CA 350, 252, 253		
				CA 453 (4) – fall Directing / Performance Prereq: CA 253 and approval from instructor	
			CA 450 (4) – spring Mainstage Performance Prereq: audition	CA 353 (4) – spring BlackBox Performance Prereq: CA 253 or approval from instructor	CA 457 (4) – spring Context of Theatre III Prereq: approval from instructor

Blue = Requirement, Black = 2 of 4 options required / Red = Elective



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MEMORANDUM

ATTENTION Senate Committee for Undergraduate Studies, SFU DATE April 24, 2017

FROM Carl Lowenberger, Chair, Science UCC

RE: Submission of Undergraduate Curriculum Business from the Faculty of Science for inclusion on the Agenda of the May 4, 2017 SCUS Meeting

Biology (BISC)

BISC Motions

- Motion 1: To delete BISC 110 The Evolution and Diversity of Life on Earth from the course calendar.
- Motion 2: To delete BISC 307 Animal Physiology Lab from the course calendar.
- Motion 3: To delete BISC 307W Animal Physiology Lab from the course calendar.
- Motion 4: To delete BISC 329 Introduction to Experimental Techniques from the course calendar.
- Motion 5: To delete BISC 432 Chemical Pesticides and the Environment from the course calendar.
- Motion 6: To approve BISC 412 Aquatic Ecology as a new 4th year lab course.
- Motion 7: To approve BISC 423 Developmental Neurobiology as a new 4th year course.
- Motion 8: To approve BISC 424 Applied Genomics as a new 4th year course.
- Motion 9: To approve BISC 424 Applied Genomics as a new 4th year course.
- Motion 10: To approve BISC 424 Applied Genomics as a new 4th year course.

Biomedical Physiology and Kinesiology (BPK)

BPK Motions

- Motion 1: Make the following editorial and course requirement changes to the calendar entry for the Biomedical Physiology Major Program.
- Motion 2: Make the following editorial changes to the calendar entry for the Biomedical Physiology Minor Program.
- Motion 3: Make the following editorial and course requirement changes to the calendar entry for the Biomedical Physiology Honours Program.
- Motion 4: Make the following editorial and course requirement changes to the calendar entry for the Kinesiology Major Program.

Motion 5: Make the following editorial changes to the calendar entry for the Kinesiology Minor Program.

Motion 6: Make the following editorial and course requirement changes to the calendar entry for the Kinesiology Honours Program.

Motion 7: Approve the NOI for the Professional Kinesiology Certificate.

Earth Sciences (EASC)

EASC Motions

Motion 1: Change the PHYS pre-requisites for EASC 205.

Motion 2: Change the PHYS pre-requisites for EASC 207.

Motion 3: Reorganize the required PHYS lecture and laboratory courses in the EASC Major and Honours programs for clarity.

Motion 4: Create a new course, SCI 301 - Science Communication: An Introduction.

MOLECULAR BIOLOGY AND BIOCHEMISTRY (MBB)

MBB Motions

Motion 1: Deletion of one course – MBB 444 Developmental Neurobiology

Motion 2: Program change to MBB major and honours program:

- i. The deletion of MBB 444 from the list of approved degree courses.
- ii. The addition of MBB 464 to the list of approved degree courses.
- iii. The addition of MBB 464 to the list of approved degree courses.

Motion 3: Program change to the Certificate in Genomics: Addition of 2 courses:

- iv. MBB 464
- v. BISC 424

Motion 4: New Course Proposal: MBB302 B-Sci “Energy: from Cells to Society”

Motion 5: Course description change for MBB 426 to better reflect the current contents of the course.

Motion 6: Course description change for MBB 427 to better reflect the current contents of the course.

Motion 7: Course title change to MBB 446: from “Cell Death and Survival” to “Molecular Biology of Cancer” to better reflect the course contents.

CHEMISTRY (CHEM)

CHEM Motion

Motion 1: Change the pre-requisite for CHEM 340.

Erin Barley
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Chair, DUCC
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April 10, 2017

ATTENTION: Carl Lowenberger,
Associate Dean, Faculty of Science

The following motions were approved at the April 10th meeting of the Department of Biological Sciences.

Motion 1: To delete BISC 110 *The Evolution and Diversity of Life on Earth* From the course calendar.

Motion 2: To delete BISC 307 *Animal Physiology Lab* from the course calendar.

Motion 3: To delete BISC 307W *Animal Physiology Lab* from the course calendar.

Motion 4: To delete BISC 329 *Introduction to Experimental Techniques* from the course calendar.

Motion 5: To delete BISC 432 *Chemical Pesticides and the Environment* from the course calendar.

Rationale. The above listed courses are no longer scheduled to be taught either because they are no longer part of our programs and/or they have been replaced by other courses and/or we do not have the teaching capacity to teach them.

Motion 6: To approve BISC 412 *Aquatic Ecology* as a new 4th year lab course.

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

Motion 7: To approve BISC 423 *Developmental Neurobiology* as a new 4th year course.

Rationale: BISC and MBB are working together to shift Developmental

Neurobiology from MBB (MBB 444) to BISC (BISC 423). MBB has not offered this course in several years, mostly due to having an abundance of 400 level courses. In the meantime, BISC has twice offered a similar Special Topics course called Nervous System Development, that would be more appropriately titled Developmental Neurobiology. We will also be adding this as a stream elective for our CMP stream (Cells, Molecules, Physiology). BISC is committed to ensuring that BISC 423 Developmental Neurobiology will continue to be accessible to MBB and FHS students. BISC is coordinating with MBB on the course deletion form (MBB 444) and Program Change forms. FHS has already submitted forms to remove MBB 444 from their program options.

Motion 8: To approve BISC 424 *Applied Genomics* as a new 4th year course.

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

Motion 9: To approve a title change for BISC 420 from *Community Ecology and Macroecology* to *Community Ecology*.

Rationale: The shortened title adequately conveys the course content and helps to distinguish this undergrad course from a graduate course.

Motion 10: To approve changes to the CMP and EEC streams of our BISC Majors and Honours programs, as outlined in the attached document.

Rationale:

CMP changes. The major changes in the proposed CMP program do the following: (1) remove courses that are no longer taught, (2) add new CMP courses to the stream electives, and (3) increase the number of options for

techniques courses. The updated program is structured to provide more options and flexibility to CMP students, and should make it easier for students to complete their program requirements in a timely manner.

EEC changes: The proposed changes add two new courses as stream electives in the EEC stream. These additions increase options for students in general, and provide an additional lab course (BISC 412) to help students meet their requirement of 5 UD lab courses. The structure of the EEC stream that was approved a year ago is unchanged.

Sincerely,
Erin Barley

BPK Motions for April 13th 2017 FoSUCC meeting

Richard Ward, Chair BPK Undergraduate Program Committee

Motions 1-7 were approved at the March 2017 BPK department meeting

BPK MOTION 1 – Make the following editorial and course requirement changes to the calendar entry for the Biomedical Physiology Major Program.

Rationale : These changes bring the calendar up to date with previously approved changes and correct small errors and inconsistencies in the current calendar entry. Also they reflect the addition of BPK 408W in to the required list of courses and the deletion of BISC 307, 307W and 329 from the list of elective courses. Please see the attached word file. ~~Cross-through~~ indicates section or entry to be removed, underline indicates section or entry to be added.

BPK MOTION 2 – Make the following editorial changes to the calendar entry for the Biomedical Physiology Minor Program.

Rationale : These changes bring the calendar up to date with previously approved changes and correct small errors. Please see the attached word file. ~~Cross-through~~ indicates section to be removed, underline indicates section to be added.

BPK MOTION 3 – Make the following editorial and course requirement changes to the calendar entry for the Biomedical Physiology Honours Program.

Rationale : These changes bring the calendar up to date with previously approved changes and correct small errors and inconsistencies in the current calendar entry. Also they reflect the addition of BPK 408W in to the required list of courses and the deletion of BISC 307, 307W and 329 from the list of elective courses. Please see the attached word file. ~~Cross-through~~ indicates section or entry to be removed, underline indicates section or entry to be added.

BPK MOTION 4 – Make the following editorial and course requirement changes to the calendar entry for the Kinesiology Major Program.

Rationale : These changes bring the calendar up to date with previously approved changes and correct small errors and inconsistencies in the current calendar entry. Also they reflect the addition of BPK 408W in to the elective list of courses. Please see the attached word file. ~~Cross-through~~ indicates section or entry to be removed, underline indicates section or entry to be added.

BPK MOTION 5 – Make the following editorial changes to the calendar entry for the Kinesiology Minor Program.

Rationale : These changes bring the calendar up to date with previously approved changes and correct small errors. Please see the attached word file. ~~Cross through~~ indicates section to be removed, underline indicates section to be added.

BPK MOTION 6 – Make the following editorial and course requirement changes to the calendar entry for the Kinesiology Honours Program.

Rationale : These changes bring the calendar up to date with previously approved changes and correct small errors and inconsistencies in the current calendar entry. Also they reflect the addition of BPK 408W in to the elective list of courses. Please see the attached word file. ~~Cross through~~ indicates section or entry to be removed, underline indicates section or entry to be added.

BPK MOTION 7 – Approve the NOI for the Professional Kinesiology Certificate

The proposed Professional Kinesiology Certificate is an upper division certificate intended to replace the currently suspended lower level certificate in Health and Fitness.

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MEMORANDUM

ATTENTION: Carl Lowenberger, Chair, Faculty of Science Undergraduate Curriculum Committee **DATE:** April 10, 2017
FROM: Glyn Williams-Jones, Chair, Earth Sciences Undergraduate Curriculum Committee
RE: Program / course changes, new course proposal

Please find enclosed documents relating to undergraduate curriculum changes approved by the Department of Earth Sciences on April 10, 2017 to be considered at the next Faculty of Science Undergraduate Curriculum Committee Meeting.

Motion 1: Change the PHYS pre-requisites for EASC 205

FROM EASC 202, CHEM 122, PHYS 102 or 121 or 126 or 141, and PHYS 130 or 132 and 133 (unless PHYS 141 taken). All with a grade of C- or better.

TO EASC 202, CHEM 122, PHYS 102 and PHYS 130 or PHYS 121 and PHYS 133 or PHYS 126 and PHYS 133 or PHYS 141. All with a grade of C- or better.

Motion 2: Change the PHYS pre-requisites for EASC 207

FROM MATH 152, PHYS 102 or 121 or 126 or 141, and PHYS 130 or 132 and 133 (unless PHYS 141 taken). All with a grade of C- or better. Quantitative.

TO MATH 152, PHYS 102 and PHYS 130 or PHYS 121 and PHYS 133 or PHYS 126 and PHYS 133 or PHYS 141. All with a grade of C- or better. Quantitative.

Motion 3: Reorganise the required PHYS lecture and laboratory courses in the EASC Major and Honours programs for clarity. See *M3 - EASC Program Modification*.

Motion 4: Create a new course, SCI 301 - Science Communication: An Introduction.

Rationale for Motions 1-2: Difficulties in pre-requisite coding by the Registrar has meant that in some cases PHYS 102 is being treated as “equivalent” to PHYS 141. As such, the pre-requisite wording is being changed to ensure that appropriate lecture and labs are completed.

Rationale for Motion 3: The new structure clarifies which groupings of PHYS lectures and laboratory courses must be taken. It is also now consistent with that of the EASC-CHEM Joint Major/Honours programs.

Rationale for Motion 4: Science is increasingly key in many important societal decisions around for example food, energy, water, environment, medicine, transportation, and mitigating natural hazards and the impacts of climate change. While communicating with our peers has always been important in science, we must increasingly also communicate externally - to the public, whether to youth, local communities, or policy makers. As scientists, we have a responsibility to communicate what we do, why

we do it, why it matters, and the benefits in ways that are as clear, effective and useful as possible, tailored for specific situations. While many of our science faculty members model excellent science communication (e.g., through radio interviews, blogs, public talks, etc.), providing an opportunity to explicitly introduce students to science communication not only shows that the culture of the Faculty of Science is one where we value reaching out to the public about our science but also that we wish to empower our students to communicate their science as effectively as possible when they need to.

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



Calendar Entry Change
Name of Program or Name of Faculty

SCUS 17-22c

Rationale for change:

CMP stream. The major changes in the proposed CMP program do the following: (1) remove courses that are no longer taught, (2) add new CMP courses to the stream electives, and (3) increase the number of options for techniques courses. The updated program is structured to provide more options and flexibility to CMP students, and should make it easier for students to complete their program requirements in a timely manner.

EEC stream. The proposed change adds two new courses as stream electives in the EEC stream. These additions increase options for students in general, and provide an additional lab course (BISC 412) to help students meet their requirement of 5 UD lab courses. The structure of the EEC stream that was approved a year ago is unchanged.

Effective term and year:

Spring 2018

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

Biological Sciences Major
Biological Sciences Honours

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

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Upper Division Requirements

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Stream Requirement

In addition to the above requirements, students choose remaining requirements in an area

of specialization by completing one of three streams: cells, molecules and physiology; ecology, evolution and conservation; and an open stream. The open stream provides broad biological training, or may be used to specialize in an area not offered by the main streams (consult the undergraduate program advisor, individual faculty, or department website for advice on other areas of specialization).

Cells, Molecules and Physiology Stream

Students who choose this stream will complete two of **the following techniques courses**:

BISC 302W - Genetic Analysis (3)
BISC 303 - Microbiology (4)
~~BISC 307W - Animal Physiology Laboratory (3)~~
~~BISC 357 - Gene Cloning~~ **Genetic Engineering (3 4)**
BPK 408W - Cell Physiology Lab (3)

and ~~three of~~ **at least four additional stream electives from**

BISC 302W - Genetic Analysis (3)
 BISC 303 - Microbiology (4)
 BISC 313 - Environmental Toxicology: A Mechanistic Perspective (3)
BISC 357 - Genetic Engineering (4)
 BISC 403 - Current Topics in Cell Biology (3)
 BISC 405 - Neurobiology (3)
BISC 421 - Models in Biology: From Molecules to Migration (3)
BISC 423 - Developmental Neurobiology (3)
BISC 424 - Applied Genomics (3)
BISC 425 - Sensory Biology (3)
~~BISC 430 - Microbe-Plant Interactions (3)~~
~~BISC 432 - Chemical Pesticides and the Environment (3)~~
 BISC 439 - Industrial Microbiology (4)
 BISC 445 - Environmental Physiology of Animals (3)
 BISC 455 - Endocrinology (3)
 BISC 457 - Plant Molecular Biology and Biotechnology (3)
 BISC 471 - Special Topics in Cells, Molecules and Physiology (3)
 BISC 472 - Special Topics in Cells, Molecules and Physiology (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)
BPK 408W - Cell Physiology Lab (3)

and ~~three~~ **two upper division** elective courses (~~nine~~ **minimum of six units**) from ~~any upper division undergraduate BISC, BPK, HSCI, MBB, PHYS, or STAT, courses, or from~~

~~other units at Simon Fraser University such as the Department of Molecular Biology and Biochemistry, Department of Biomedical Physiology and Kinesiology, Department of Physics, and the Faculty of Health Sciences, which may count as options towards this stream, subject to the approval by the department. Normally no more than two courses from other units and no more than three~~ **two** 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. **A minimum of 3 CMP stream courses must be at the 400 level.**

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 applied course from:

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 407 - Population Dynamics (3)

BISC 410 - Behavioral Ecology (3)

BISC 420 - Community Ecology and Macroecology (3)

BISC 422 - Population Genetics (3)

BISC 440W - Biodiversity (3)

and 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 412 – Aquatic Ecology (3)**
- BISC 413 - Fisheries Ecology (3)
- BISC 414 - Limnology (3)
- BISC 420 - Community Ecology and Macroecology (3)
- BISC 421 – Models in Biology: From Molecules to Migration (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 497W - Undergraduate Research: Writing Intensive (3)
- BISC 498 - Undergraduate Research I (3)
- BISC 499 - Undergraduate Research II (3)

Courses from other units at ~~Simon Fraser University~~ such as the Faculty of Environment and MASC courses may count as options toward these stream electives, subject to approval by the department. Students complete a total of five lab courses (which may include one of BISC 497W, 498, 499) among their upper division courses.

Biomedical Physiology Honours

BACHELOR OF SCIENCE

Program Requirements

Students complete a total of ~~132~~ 135 units as specified below.

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Upper Division Requirements

Students complete a _____ at least 60 ~~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 307 - Human Physiology III (3)

BPK 326 - Functional Anatomy (4)

BPK 407 - Human Physiology Laboratory (3)

BPK 408W Cellular Physiology Laboratory (3) +

BPK 491 - Undergraduate Honours Thesis Proposal (3)

BPK 495 - Undergraduate Honours Research Performance (6)

BPK 499 - Undergraduate Honours Thesis Reporting (6)

MBB 321 - Intermediary Metabolism (3)

and one of

BISC 303 - Microbiology (4)

~~BISC 307 - Animal Physiology Laboratory (3)~~

~~BISC 307W - Animal Physiology Laboratory (3)~~

BISC 316 - Vertebrate Biology (4)

~~BISC 329 - Introduction to Experimental Techniques (4)~~

BISC 333 - Developmental Biology (3) ^

BISC 357 - Gene Cloning (3) ^

BISC 403 - Current Topics in Cell Biology (3)

BISC 405 - Neurobiology (3)

CHEM 360 - Thermodynamics and Chemical Kinetics (3)

MBB 308 - Molecular Biology Laboratory (3) ^

MBB 309W - Biochemistry Laboratory (4)

MBB 322 - Molecular Physiology (3)

MBB 323 - Introduction to Physical Biochemistry (3)

MBB 324 - Protein Biochemistry (3)

MBB 331 - Molecular Biology (3) ^

PHYS 347 - Introduction to Biological Physics (3)

and **five six** of

- BPK 301 - Biomechanics Laboratory (3)
- BPK 308 - Experiments and Models in Systems Physiology (3)
- BPK 310 - Exercise/Work Physiology (3)
- BPK 336 - Histology (3)
- BPK 340 - Active Health: Behavior and Promotion (3)
- BPK 401 - Muscle Biomechanics (3)
- BPK 402 - Mechanical Behavior of Biological Tissues (3)
- BPK 412 - Molecular Cardiac Physiology (3)
- BPK 415 - Neural Control of Movement (3)
- BPK 420 - Selected Topics in Kinesiology I (3) *
- BPK 421 - Selected Topics in Kinesiology II (3) *
- BPK 422 - Selected Topics in Kinesiology III (3) *
- BPK 423 - Selected Topics in Kinesiology IV (3) *
- BPK 426 - Neuromuscular Anatomy (3)
- BPK 430 - Human Energy Metabolism (3)
- BPK 431 - Integrative Cancer Biology (3)
- BPK 432 - Physiological Basis of Temperature Regulation (3)
- BPK 444 - Cardiac Disease: Pathophysiology and Assessment (3)
- BPK 446 - Neurological Disorders (3)
- BPK 448 - Rehabilitation of Movement Control (3)
- BPK 458 - Prevention and Management of Cardiovascular Disease (3)
- BPK 484 - Altitude and Aerospace Physiology (3)

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

- BPK 496 - Directed Study Literature (3) *
- BPK 498 - Directed Study Experiential (3) *

and three upper division units from any **faculty-department including BPK except for BPK 325, 342, 457, 459, 491, 495 and 499.**

* must be selected topics courses in physiology

+ BPK (or KIN) 304W or BPK 408W ~~satisfy~~ satisfies the University's breadth requirements of three upper division units in writing

^ require additional prerequisites outside of program requirements

Unspecified and Partially Specified Electives

To complete the degree's total of ~~132~~ **135** units, students are required to complete an additional ~~20~~ **16** elective units. These ~~20~~ **16** units must include units from courses that will satisfy the University breadth requirement of six units each of designated humanities breadth (B-Hum) and social science breadth (B-Soc), and three units of lower division writing (W). The quantitative (Q) and science breadth (B-Sci) requirements are satisfied through the completion of the biomedical physiology major lower division core course set. For more information, please visit <http://www.sfu.ca/ugcr>.

Biomedical Physiology Major

BACHELOR OF SCIENCE

Admission Requirements

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Internal Transfer

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Applicants are selected based on an admission grade point average (GPA) calculated over these five required courses, together with any of the following courses.

BISC 102-4 General Biology

BISC 202-3 Genetics

CHEM 122-2 General Chemistry II

CHEM 281-4 Organic Chemistry I

BPK 201-3 Biomechanics

BPK 205-3 Introduction to Human Physiology

BPK 207-3 Sensorimotor Control and Learning

MBB 222-3 Molecular Biology and Biochemistry

MBB 231-3 Cellular Biology and Biochemistry

...

Apply for admission as soon as the five required courses have been completed.

Unsuccessful applicants may complete **a minimum of 4 or more courses from the list of 12 any of the 10 additional courses** to improve the admission GPA. A C- grade or better is required in each course used for the admission application. Those not meeting the admission GPA upon completion of all ~~ten~~ **12** additional courses will be advised of alternatives. For students transferring some core courses from another post-secondary institution, only courses completed at Simon Fraser University (and not previously completed elsewhere) are used in the admission GPA.

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Upper Division Requirements

Students complete at **least 45 46-47** 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 307 - Human Physiology III (3)

BPK 326 - Functional Anatomy (4)
BPK 407 - Human Physiology Laboratory (3)
BPK 408W Cellular Physiology Laboratory (3) +
MBB 321 - Intermediary Metabolism (3)

and one of

BISC 303 - Microbiology (4)
~~BISC 307 - Animal Physiology Laboratory (3)~~
~~BISC 307W - Animal Physiology Laboratory (3)~~
BISC 316 - Vertebrate Biology (4)
~~BISC 329 - Introduction to Experimental Techniques (4)~~

BISC 333 - Developmental Biology (3) ^
BISC 357 - Gene Cloning (3) ^
BISC 403 - Current Topics in Cell Biology (3)
BISC 405 - Neurobiology (3)
CHEM 360 - Thermodynamics and Chemical Kinetics (3)
MBB 308 - Molecular Biology Laboratory (3) ^
MBB 309W - Biochemistry Laboratory (4)
MBB 322 - Molecular Physiology (3)
MBB 323 - Introduction to Physical Biochemistry (3)
MBB 324 - Protein Biochemistry (3)
MBB 331 - Molecular Biology (3) ^
PHYS 347 - Introduction to Biological Physics (3)

and **five six** of

BPK 301 - Biomechanics Laboratory (3)
BPK 308 - Experiments and Models in Systems Physiology (3)
BPK 310 - Exercise/Work Physiology (3)
BPK 336 - Histology (3)
BPK 340 - Active Health: Behavior and Promotion (3)
BPK 401 - Muscle Biomechanics (3)
BPK 402 - Mechanical Behavior of Biological Tissues (3)
BPK 412 - Molecular Cardiac Physiology (3)
BPK 415 - Neural Control of Movement (3)
BPK 420 - Selected Topics in Kinesiology I (3) *
BPK 421 - Selected Topics in Kinesiology II (3) *
BPK 422 - Selected Topics in Kinesiology III (3) *
BPK 423 - Selected Topics in Kinesiology IV (3) *
BPK 426 - Neuromuscular Anatomy (3)
BPK 430 - Human Energy Metabolism (3)
BPK 431 - Integrative Cancer Biology (3)
BPK 432 - Physiological Basis of Temperature Regulation (3)
BPK 444 - Cardiac Disease: Pathophysiology and Assessment (3)
BPK 446 - Neurological Disorders (3)
BPK 448 - Rehabilitation of Movement Control (3)
BPK 458 - Prevention and Management of Cardiovascular Disease (3)
BPK 484 - Altitude and Aerospace Physiology (3)

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

BPK 496 - Directed Study Literature (3) *

BPK 498 - Directed Study Experiential (3) *

and three upper division units from any faculty-department including BPK except for BPK 325, 342, 457, 459, 491, 495 and 499.

* must be selected topics courses in physiology

+ BPK (or KIN) 304W or BPK 408W satisfy satisfies the University's breadth requirements of three upper division units in writing

^ require additional prerequisites outside of program requirements

Unspecified and Partially Specified Electives

A total of ~~20~~ 16 elective units are also required. These ~~20~~ 16 units must include units from courses that will satisfy the University breadth requirement of six units each of designated humanities breadth (B-Hum) and social science breadth (B-Soc), and three units of lower division writing (W). The quantitative (Q) and science breadth (B-Sci) requirements are satisfied through the completion of the biomedical physiology major lower division core course set. For more information, please visit <http://www.sfu.ca/ugcr>.

Department of Biomedical Physiology & Kinesiology

Simon Fraser University Calendar | Summer 2017

Biomedical Physiology Minor

Note that students cannot combine a biomedical physiology minor with any other major or minor in the areas of kinesiology and behavioural neuroscience.

Admission Requirements

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Students complete all of

BISC 101-4 General Biology

BPK 142-3 Introduction to Kinesiology

CHEM 121-4 General Chemistry and Laboratory I

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~~A minimum GPA of 2.0 calculated on all biomedical physiology and kinesiology courses used to satisfy the requirements is required as well as a minimum upper division GPA of 2.0 calculated on those upper division biomedical physiology and kinesiology courses used to satisfy the requirements.~~

The graduation GPA of 2.0 must be obtained both on the overall course work (CGPA) as well as on the upper division subset of that work (UDGPA).

In addition, the program GPA of 2.0 must be obtained on the overall course work (CGPA) as well as on the upper division subset of that work (UDGPA) in the program area.

Kinesiology Honours

BACHELOR OF SCIENCE

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 495 - Undergraduate Honours Research Performance (6)
BPK 499 - Undergraduate Honours Thesis Reporting (6)
and one of
BPK 301 - Biomechanics Laboratory (3)
BPK 407 - Human Physiology Laboratory (3)

* Students can complete both BPK 301 and 407, and count one as an elective.

+ BPK 304W satisfies the University's breadth requirements of three upper division units in writing

General Program or Concentration Upper Division Requirements

Students complete either the general program requirements as listed immediately below, or they can choose to complete the requirements for the Active Health and Rehabilitation Concentration (see below).

General Program

This program option requires a total of **at least** 60 upper division units, which is composed of the ~~37~~ upper division core courses **shown above** (~~see above~~) and the following additional requirements.

Students who choose this option will complete an additional 21 biomedical physiology and kinesiology units chosen from upper division BPK (or KIN) courses, excluding BPK or (KIN) 325, 342, 491, 495, 497, 499. MBB 321 may be used to satisfy three units of this requirement.

As well, an additional ~~five~~ three upper division units, chosen from any ~~discipline within the University, is required~~ department, including BPK, except for BPK 325, 342, 457, 459, 491, 495 and 499.

Students admitted in September 2006 or later are also required to complete the University's writing, quantitative and breadth (WQB) requirements, which includes the requirement of completing three units of writing-intensive credit at the upper division. The W component may be included within the ~~45~~ upper division unit total for this general program.

Active Health and Rehabilitation Concentration

This program option requires a total of at least 60 upper division units, which is composed of the ~~34~~ upper division core courses shown above (see above) and the following additional requirements.

Students who choose this concentration will complete ~~an~~ additional ~~23~~ BPK units as specified below, including all of

BPK 303 - Kinanthropometry (3)
BPK 343 - Active Health: Assessment and Programming (3)

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 312 - Nutrition for Fitness and Sport (3)
BPK 375 - Human Growth and Development (3)
BPK 381 - Psychology of Work (3)
BPK 382 - Workplace Health (3)
BPK 401 - Muscle Biomechanics (3)
BPK 402 - Mechanical Behavior of Biological Tissues (3)
BPK 408W – Cellular Physiology Laboratory (3)
BPK 412 - Molecular Cardiac Physiology (3)
BPK 415 - Neural Control of Movement (3)
BPK 417W - Obesity, Adipocyte Function and Weight Management (3)
BPK 420 - Selected Topics in Kinesiology I (3) ^
BPK 421 - Selected Topics in Kinesiology II (3) ^
BPK 422 - Selected Topics in Kinesiology III (3) ^

BPK 423 - Selected Topics in Kinesiology IV (3) ^
BPK 426 - Neuromuscular Anatomy (3)
BPK 431 - Integrative Cancer Biology (3)
BPK 432 - Physiological Basis of Temperature Regulation (3)
BPK 443 - Advanced Exercise Prescription (3)
BPK 444 - Cardiac Disease: Pathophysiology and Assessment (3)
BPK 445 - Advanced Cardiac Rehabilitation (3)
BPK 446 - Neurological Disorders (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)

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

BPK 496 - Directed Study Literature (3) ^

BPK 498 - Directed Study Experiential (3) ^

^ can be counted toward area of concentration if relevant to active health or rehabilitation kinesiology. Please see the head of the area of concentration for permission to count any of these courses toward the area of concentration requirement.

and one additional upper division **BPK KIN** course, excluding **BPK KIN 325, 342, 491, 495, 497, 499.**

and an additional **three two units of** upper division units chosen from any discipline **department** within the University **including BPK except for BPK 325, 342, 491, 495, 499.**

~~Students admitted in September 2006 or later are also required to complete the University's writing, quantitative and breadth (WQB) requirements, which includes the requirement of completing three units of writing intensive credit at the upper division. The W component may be included within the 45 upper division unit total for this general program.~~

~~**^ can be counted toward area of concentration if relevant to active health or rehabilitation kinesiology. Please see the head of the area of concentration for permission to count any of these courses toward the area of concentration requirement.**~~

Unspecified and Partially Specified Electives

To complete the degree's total of ~~132~~ **135** units, students are required to complete an additional ~~23~~ **19** elective units.

Of these, six must be from the social science and humanities course list (see below) to meet CCUPEKA certification requirements.

These units must also include courses that will satisfy the University breadth requirements of six units each of designated humanities breadth (B-Hum) and social science breadth (B-Soc).

However, courses from the social science and humanities course list that have B-Hum or B-Soc designation may be used to satisfy both requirements.

General Program

A total of 24 elective units are also required. These 24 units must include units from courses that will satisfy the University breadth requirement of six units each of designated humanities breadth (B-Hum) and social science breadth (B-Soc), and three units of lower division writing (W). For more information, please visit <http://www.sfu.ca/ugcr>.

Active Health and Rehabilitation Concentration

A total of 18 elective units are also required. These 18 units must include units from courses that will satisfy the University breadth requirement of six units each of designated humanities breadth (B-Hum) and social science breadth (B-Soc), and three units of lower division writing (W). as well as six units of designated CCUPEKA courses. For more information, please visit <http://www.sfu.ca/ugcr>.

The following courses can be used to satisfy the CCUPEKA requirements. They are also either B-Hum, B-Soc or both and will count toward the Simon Fraser University breadth requirements. Although courses can satisfy more than one requirement, they only count once towards the total number of units required for the degree. For example: EDUC 100W -3 satisfies B – HUM, W and CCUPEKA but will only count as 3 units, not 9 units, towards the total of 120 units required for the degree.

Social Science and Humanities Course List

ARCH 201 - [Reconstructing the Human Past \(4\)](#)

COGS 100 - [Exploring the Mind \(3\)](#)

CMNS 110 - [Introduction to Communication Studies \(3\)](#)

CRIM 101 - [Introduction to Criminology \(3\)](#)

CRIM 355 - [The Forensic Sciences \(3\)](#)

DIAL 390W - Semester: Dialogue (5)

DIAL 391W - Semester: Seminar (5)

DIAL 392W - Semester: Final Project (5)

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Kinesiology Major

BACHELOR OF SCIENCE

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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 22 units~~, including all of the following courses

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)

and one of

BPK 301 - Biomechanics Laboratory (3)

BPK 407 - Human Physiology Laboratory (3)

+ BPK 304W satisfies the University's breadth requirements of three upper division units in writing

^** Students can complete both BPK 301 and 407, and count one as an elective**

General Program or Concentration Upper Division Requirements

Students complete either the general program requirements as listed immediately below, or they can choose to complete the requirements for the Active Health and Rehabilitation Concentration (see below).

General Program

This program option requires a total of at least 45 upper division units, which is composed of the ~~22 units of~~ upper division core courses as shown above (see above) and the following additional requirements.

Students who choose this option will complete an additional 21 biomedical physiology and kinesiology units chosen from upper division BPK courses, excluding BPK (or KIN) 325, 342, 457, 459, 491, 495, 497, and 499. MBB 321 may be used to satisfy three units of this requirement.

As well, an additional ~~two~~ three upper division units, chosen from any discipline department within the University including BPK, but excluding BPK 325, 342, 457, 459, 491, 495 and 499. is required.

Students admitted in September 2006 or later are also required to complete the University's writing, quantitative and breadth (WQB) requirements, which includes the requirement of completing three units of writing-intensive credit at the upper division. The W component may be included within the 45 upper division unit total for this general program.

Active Health and Rehabilitation Concentration

This program option requires a total of **at least** 45 upper division units, which is composed of the ~~22 units of~~ upper division core courses **shown above (see above)** and the following additional requirements. Students who choose this concentration will complete ~~an~~ additional ~~23~~ BPK units as specified below, including all of

BPK 303 - Kinanthropometry (3)

BPK 343 - Active Health: Assessment and Programming (3)

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 312 - Nutrition for Fitness and Sport (3)

BPK 375 - Human Growth and Development (3)

BPK 381 - Psychology of Work (3)

BPK 382 - Workplace Health (3)

BPK 401 - Muscle Biomechanics (3)

BPK 402 - Mechanical Behavior of Biological Tissues (3)

BPK 408W Cellular Physiology Laboratory (3) +

BPK 412 - Molecular Cardiac Physiology (3)

BPK 415 - Neural Control of Movement (3)

BPK 417W - Obesity, Adipocyte Function and Weight Management (3)

BPK 420 - Selected Topics in Kinesiology I (3) ^

BPK 421 - Selected Topics in Kinesiology II (3) ^

BPK 422 - Selected Topics in Kinesiology III (3) ^

BPK 423 - Selected Topics in Kinesiology IV (3) ^

BPK 426 - Neuromuscular Anatomy (3)

BPK 431 - Integrative Cancer Biology (3)

BPK 432 - Physiological Basis of Temperature Regulation (3)

BPK 443 - Advanced Exercise Prescription (3)

BPK 444 - Cardiac Disease: Pathophysiology and Assessment (3)

BPK 445 - Advanced Cardiac Rehabilitation (3)

BPK 446 - Neurological Disorders (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)

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

BPK 496 - Directed Study Literature (3) ^
BPK 498 - Directed Study Experiential (3) ^

^ can be counted toward area of concentration if relevant to active health or rehabilitation kinesiology. Please see the head of the area of concentration for permission to count any of these courses toward the area of concentration requirement.

and one additional upper division biomedical physiology and kinesiology course, excluding BPK (or KIN) 325, 342, ~~457, 459, 491, 495, 497,~~ and 499,

and an additional ~~two~~ **three** units of upper division units chosen from any **discipline department** within the University **including BPK, but excluding BPK 325, 342, 457, 459, 491, 495 and 499.**

~~Students admitted in September 2006 or later are also required to complete the University's writing, quantitative and breadth (WQB) requirements, which includes the requirement of completing three units of writing intensive credit at the upper division. The W component may be included within the upper division unit total for this program.~~

~~**^ can be counted toward area of concentration if relevant to active health or rehabilitation kinesiology. Please see the head of the area of concentration for permission to count any of these courses toward the area of concentration requirement.**~~

Unspecified and Partially Specified Electives

~~The following courses can be used to satisfy the CCUPEKA requirements. They are also either B-Hum, B-Soc or both and will count toward the Simon Fraser University breadth requirements.~~

~~Additional elective units are required to meet the minimum degree requirement of 120 units. Of these, six must be from the social science and humanities course list (see below) to meet CCUPEKA certification requirements.~~

~~These elective units must also include courses that will satisfy the University breadth requirements of six units each of designated humanities breadth (B-Hum) and social science breadth (B-Soc). However, courses from the social science and humanities course list that have B-Hum or B-Soc designation may be used to satisfy both the CUPPEKA and Simon Fraser University requirements.~~

General Program

A total of 24 elective units are also required. These 24 units must include units from courses that will satisfy the University breadth requirement of six units each of designated humanities breadth (B-Hum) and social science breadth (B-Soc), and three units of lower division writing (W). For more information, please visit

<http://www.sfu.ca/ugcr>.

Active Health and Rehabilitation Concentration

A total of 18 elective units are also required. These 18 units must include units from courses that will satisfy the University breadth requirement of six units each of designated humanities breadth (B-Hum) and social science breadth (B-Soc), and three units of lower division writing (W) as well as six units of designated CCUPEKA courses. For more information, please visit <http://www.sfu.ca/ugcr>.

The following courses can be used to satisfy the CCUPEKA requirements. They are also either B-Hum, B-Soc or both and will count toward the Simon Fraser University breadth requirements. Although courses can satisfy more than one requirement, they only count once towards the total number of units required for the degree. For example: EDUC 100W -3 satisfies B – HUM, W and CCUPEKA but will only count as 3 units, not 9 units, towards the total of 120 units required for the degree.

Social Science and Humanities Course List

ARCH 201 - [Reconstructing the Human Past \(4\)](#)

COGS 100 - [Exploring the Mind \(3\)](#)

CMNS 110 - [Introduction to Communication Studies \(3\)](#)

CRIM 101 - [Introduction to Criminology \(3\)](#)

CRIM 355 - [The Forensic Sciences \(3\)](#)

DIAL 390W - [Semester: Dialogue \(5\)](#)

DIAL 391W - [Semester: Seminar \(5\)](#)

DIAL 392W - [Semester: Final Project \(5\)](#)

EDUC 100W - [Selected Questions and Issues in Education \(3\)](#)

ENGL 115W - [Literature and Culture \(3\)](#)

GERO 300 - [Introduction to Gerontology \(3\)](#)

HSCI 120 - [Introduction to Human Sexuality and Sexual Behavior \(3\)](#)

HSCI 140 - [Complementary and Alternative Medicine \(3\)](#)

HSCI 160 - [Global Perspectives on Health \(3\)](#)

IAT 100 - [Digital Image Design \(3\)](#)

IAT 202 - [New Media Images \(3\)](#)

PHIL 100W - [Knowledge and Reality \(3\)](#)

PHIL 120W - [Moral Problems \(3\)](#)
PHIL 144 - [Introduction to Philosophy of Science \(3\)](#)
PHIL 150 - [History of Philosophy I \(3\)](#)
PHIL 151 - [History of Philosophy II \(3\)](#)
PHIL 300 - [Introduction to Philosophy \(3\)](#)
PSYC 100 - [Introduction to Psychology I \(3\)](#)
PSYC 102 - [Introduction to Psychology II \(3\)](#)
PSYC 106 - [Psychological Issues in Contemporary Society \(3\)](#)
REM 100 - [Global Change \(3\)](#)
SA 101 - [Introduction to Anthropology \(A\) \(4\)](#)
SA 150 - [Introduction to Sociology \(S\) \(4\)](#)

The following courses qualify for CCUPEKA humanities or social science units, but not toward the Simon Fraser University breadth requirements.

FPA 129 - [Movement Fundamentals \(3\)](#)
GERO 302 - [Health Promotion and Aging \(3\)](#)
GERO 404 - [Health and Illness in Later Life \(3\)](#)
GERO 420 - [Sociology of Aging \(4\)](#)
PHIL 105 - [Critical Thinking \(3\)](#)
PHIL 110 - [Introduction to Logic and Reasoning \(3\)](#)
PHIL 210 - [Natural Deductive Logic \(3\)](#)
SA 318 - [The Anthropology of Medicine \(A\) \(4\)](#)

Department of Biomedical Physiology & Kinesiology

Simon Fraser University Calendar | Summer 2016

Kinesiology Minor

Note that students cannot combine a kinesiology minor with any other major or minor in the areas of biomedical physiology and behavioural neuroscience.

Admission Requirements

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~~A minimum GPA of 2.0 calculated on all biomedical physiology and kinesiology courses used to satisfy the requirements is required as well as a minimum upper division GPA of 2.0 calculated on those upper division biomedical physiology and kinesiology courses used to satisfy the requirements.~~

The graduation GPA of 2.0 must be obtained both on the overall course work (CGPA) as well as on the upper division subset of that work (UDGPA).

In addition, the program GPA of 2.0 must be obtained on the overall course work (CGPA) as well as on the upper division subset of that work (UDGPA) in the program area.



Calendar Entry Change

Name of Program or Name of Faculty

Rationale for change: The new structure clarifies which groupings of PHYS lectures and laboratory courses must be taken.
Effective term and year: Fall 2017
The following program(s) will be affected by these changes: EASC Major and Honours

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

Lower Division Requirements and one of PHYS 101-3 Physics for the Life Sciences I** PHYS 120-3 Mechanics and Modern Physics PHYS 125-3 Mechanics and Special Relativity PHYS 140-4 Studio Physics - Mechanics and Modern Physics and one of PHYS 102-3 Physics for the Life Sciences II** PHYS 121-3 Optics, Electricity and Magnetism PHYS 126-3 Electricity, Magnetism and Light PHYS 141-4 Studio Physics - Optics, Electricity and Magnetism and if not completing PHYS 140/141, one of PHYS 130-2 Physics for the Life Sciences Laboratory** PHYS 131-2 Physics Laboratory I all of PHYS 101 - Physics for the Life Sciences I (3)** PHYS 102 - Physics for the Life Sciences II (3)** PHYS 130 - Physics for the Life Sciences Laboratory (2) ** or all of PHYS 120 - Mechanics and Modern Physics (3) PHYS 121 - Optics, Electricity and Magnetism (3) PHYS 132 - Physics Laboratory I (1) PHYS 133 - Physics Laboratory II (1)
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or all of

PHYS 125 - Mechanics and Special Relativity (3)

PHYS 126 - Electricity, Magnetism and Light (3)

PHYS 132 - Physics Laboratory I (1)

PHYS 133 - Physics Laboratory II (1)

or both of

PHYS 140 - Studio Physics - Mechanics and Modern Physics (4)

PHYS 141 - Studio Physics - Optics, Electricity and Magnetism (4)

Calendar Entry Change
Molecular Biology and Biochemistry – Genomics Certificate

Rationale for change:

Two courses have been added as options:

MBB464

BISC 424

Effective term and year:

Spring 2018

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

Genomics Certificate

Calendar Change

And three of

BISC 424 – Functional and Applied Genomics

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) #

MBB 420 - Selected Topics in Contemporary Biochemistry (3) #

MBB 440 - Selected Topics in Contemporary Molecular Biology (3) #

MBB 441 - Bioinformatics (3)

MBB 461 - Comparative Genomics (3)

MBB 462 - Human Genomics (3)

MBB 463 - Forensic Genomics (3)

MBB 464 – From Genome to System

course must be in an area related to genomics and must be approved by the MBB academic advisor

* courses require additional prerequisites

Calendar Entry Change Molecular Biology and Biochemistry

Rationale for change:

One course has been deleted – MBB444

Two courses have been added – MBB464 and HSCI442

Effective term and year:

Spring 2018

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

MBB Majors program

MBB Honours program

Calendar Change

MBB 323 - Introduction to Physical Biochemistry (3)
MBB 324 - Protein Biochemistry (3)
MBB 342 - Introductory Genomics and Bioinformatics (3)
MBB 402 - Developmental Biology of Cell Signalling (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 - 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 (4)
MBB 436 - Gene Expression (3)
MBB 438 - Human Molecular Genetics (3)
MBB 440 - Selected Topics in Contemporary Molecular Biology (3)
MBB 441 - Bioinformatics (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)
MBB 464 – From Genome to System (3)
HSCI 442-Immunology Lab (4)
PHYS 433 - Biological Physics Laboratory (3)