SFU OFFICE OF THE ASSOCIATE VICE-PRESIDENT, ACADEMIC

8888 University Drive,
Burnaby, BC
Canada V5A 1S6

TEL: 778.782.4636
FAX: 778.782.5876

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

MEMORANDUM

ATTENTION	Senate	**DATE**	December 5, 2014
FROM	Gordon Myers, Chair Senate Committee on Undergraduate Studies	**PAGES**	1/1
RE:	Faculty of Science (SCUS 14-53)		

For information:

Acting under delegated authority at its meeting of December 4, 2014 SCUS approved the following curriculum revisions effective Fall 2015.

1. Temporarily Withdrawn Courses (SCUS 14-53a)
   (i) Temporarily withdraw BISC 304, 367, 367W, 404, 406, 449
   (ii) Retain BISC 110, 302, 434 and MASC 411, 440, 445 and 446
   (iii) Temporarily withdraw CHEM 330
   (iv) Delete CHEM 333
   (v) Temporarily withdraw MATH 294
   (vi) Retain MBB 431 and 444
   (vii) Retain DIAL 460 and 461

2. Department of Molecular Biology and Biochemistry (SCUS 14-53b)
   (i) Upper and Lower Division Requirement changes to the MBB Major, Honours and Minor Programs
   (ii) New course proposals for:
   - MBB 429-3, RNA-mediated Gene Regulation
   - MBB 463-3, Forensic Genomics

   (iii) Prerequisite change to MBB 422

3. Department of Biomedical Physiology and Kinesiology (SCUS 14-53c)
   (i) Requirement changes to the KIN Minor and the BPK Major and Honours Programs and change to BPK 342 course description.

4. Department of Chemistry (SCUS 14-53d)
   (i) Requirement changes to the Chemistry B.Sc Honours Degree

SFU **FACULTY OF SCIENCE**
Dean of Science

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

TEL 778.782.4590
FAX 778.782.3424

sfu.ca/science

SCUS 14-53a

MEMORANDUM

ATTENTION	Jo Hinchliffe, Associate Registrar	DATE	November 19, 2014
FROM	Claire Cupples, Dean, Faculty of Science	PAGES	2
RE:	Science Temporarily Withdrawn Courses		

Further to your memo dated October 20, 2014, please find below the Science UCC decision for the following courses:

BISC and MASC

Move the following courses from Active to Temporarily Withdrawn:
BISC 304
BISC 367
BISC 367W
BISC 404
BISC 406
BISC 449

Retain the following courses as Active pending it being offered in the near future:
BISC 110
BISC 302
BISC 434
MASC 411
MASC 440
MASC 445
MASC 446

CHEM

Retain the course as Temporarily Withdrawn:
CHEM 330

Delete the course:
CHEM 333

MATH

Move the following courses from Active to Temporarily Withdrawn:
MATH 294

MBB

Retain the following courses as Active pending it being offered in the near future:
MBB 431
MBB 444

DIAL

Retain the following courses as Active pending it being offered in the near future:
DIAL 460
DIAL 461

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FAX 778.782.3424

sfu.ca/science

MEMORANDUM

ATTENTION	Senate Committee for Undergraduate Studies, SFU	DATE	November 24, 2014
FROM	Claire Cupples, Dean, Faculty of Science	PAGES	2
RE:	New Undergraduate Curriculum Business from the Faculty of Science for inclusion on the Agenda of the December 2014 SCUS Meeting		

MBB

- Motion: Program Change for MBB Honours – Total number of units from 132 to 124.
- Motion: Program Change for MBB Major and MBB Honours to include CHEM 380 as Optional Requirement
- Motion: Program Change for MBB Minor – Removal of MBB 300 and including MBB 400 and MBB 471.
- Motion: MBB 429, approve new course proposal
- Motion: MBB 463, approve new course proposal
- Motion: MBB 422, approve prerequisite change

BPK

- Motion: Program Change for KIN Minor – Approve addition of BPK 340
- Motion: Program Change for BPK Major and Honours – Restrict students from taking BPK 342
- Motion: MBB 443, approve new course proposal
- Motion: MBB 344, approve deletion of course

Chemistry

- Motion: Program Change for CHEM Honours – Total number of units from 132 to ~~120~~ 122.
- Motion: CHEM 433, approve new course proposal
- Motion: CHEM 333, approve course deletion
- Motion: SCI 191, approve new course proposal

Statistics

- Motion: STAT 341, approve credit change
- Motion: STAT 342, approve credit change

Motion:
Change the Calendar Description to the Lower Division and Upper Division requirements to the Honors Program in MBB

Rationale: update to reflect 124 total units, of which 60 must be Upper Division and the addition of Chem380 as a requirement option

Deletions in ~~STRIKETHROUGH~~ font, additions in **BOLD** font

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Spring 2015 calendar / Molecular Biology and Biochemistry Honours (Bachelor of Science)
Department of Molecular Biology and Biochemistry | Faculty of Science Simon Fraser University Calendar | Spring 2015

Molecular Biology and Biochemistry Honours

Bachelor of Science

The MBB honours program provides a broad foundation in the life sciences from a biochemical, cellular, and molecular perspective. Flexibility in upper division course selection allows students to tailor the program to their own interests as well as meet the entry requirements for medical school and other professional and graduate programs. The MBB honours program provides an intense research experience for students wanting to go on to graduate programs.

Admission Requirements

Program entry requires MBB advisor permission. Declared honours students may follow the requirements in effect when they were accepted into the program, or the requirements as set out below. Acceptance into and continuance in the program requires a minimum 3.0 cumulative grade point average (CGPA).

Prerequisite Grade

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

Program Requirements

Students complete a total of ~~132~~ **124** units, including lower and upper division requirements as shown below, and enough elective courses to total ~~132~~**124**. Of these ~~132~~ **124** units, 60 units must be in upper division courses.

Lower Division Requirements

Students complete a total of 52-58 units, including all of

BISC 101 - General Biology (4)

BISC 102 - General Biology (4)
BISC 202 - Genetics (3)
CHEM 121 - General Chemistry and Laboratory I (4)
CHEM 122 - General Chemistry II (2)
CHEM 126 - General Chemistry Laboratory II (2)
~~CHEM 215 - Introduction to Analytical Chemistry (4)~~
CHEM 281 - Organic Chemistry I (4)
CHEM 286 - Organic Chemistry Laboratory II (2)
MBB 222 - Molecular Biology and Biochemistry (3)
MBB 231 - Cellular Biology and Biochemistry (3)

and both of

CHEM 282 - Organic Chemistry II (2)
CHEM 215 - Introduction to Analytical Chemistry (4)

Or both of

CHEM 283 - Organic Chemistry IIb (3)
CHEM 380 – Chemical and Instrumental Methods of Identification of Organic Compounds (4)

and one of

CMPT 102 - Introduction to Scientific Computer Programming (3)
CMPT 110 - Programming in Visual Basic (3)
CMPT 120 - Introduction to Computing Science and Programming I (3)
CMPT 126 - Introduction to Computing Science and Programming (3)
CMPT 130 - Introduction to Computer Programming I (3)

and one of

MATH 150 - Calculus I with Review (4)
MATH 151 - Calculus I (3)
MATH 154 - Calculus I for the Biological Sciences (3)

and one of

MATH 152 - Calculus II (3)
MATH 155 - Calculus II for the Biological Sciences (3)

and one of

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

and one of

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

and one of

STAT 201 - Statistics for the Life Sciences (3)
STAT 270 - Introduction to Probability and Statistics (3)

Upper Division Requirements

Students complete a total of **48** units, including all of

MBB 308 - Molecular Biology Laboratory (3)
MBB 309W - Biochemistry Laboratory (4)
MBB 321 - Intermediary Metabolism (3)
MBB 322 - Molecular Physiology (3)
MBB 331 - Molecular Biology (3)

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

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

And one additional upper division course from any department in the Facutly of Science (including MBB)

and either all of (option A)

MBB 481 - Individual Study Semester - Research Design (5)
MBB 482 - Individual Study Semester - Research Performance (5)

MBB 483 - Individual Study Semester - Research Reporting (5)

or both of (option B)

MBB 491 - Undergraduate Research (5)
MBB 492 - Individual Study Semester (Option A) (10) *

* This may be accomplished by breaking the individual study term project into two consecutive terms.

Students are required to complete additional upper division units to total a minimum of 60 upper division units.

Co-operative Education Recommendation

Students are encouraged to enrol in co-operative education.

Writing, Quantitative, and Breadth Requirements

Students admitted to Simon Fraser University beginning in the fall 2006 term must meet writing, quantitative and breadth requirements as part of any degree program they may undertake. See Writing, Quantitative, and Breadth Requirements for university-wide information.

WQB Graduation Requirements

A grade of C- or better is required to earn W, Q or B credit

Requirement	Units	Notes	
W - Writing	6	Must include at least one upper division course, taken at Simon Fraser University within the student's major subject	
Q - Quantitative	6	Q courses may be lower or upper division	
B - Breadth	18	Designated Breadth	Must be outside the student's major subject, and may be lower or upper division 6 units Social Sciences: B-Soc 6 units Humanities: B-Hum 6 units Sciences: B-Sci
	6	Additional Breadth	6 units outside the student's major subject (may or may not be B-designated courses, and will likely help fulfil individual degree program requirements) Students choosing to complete a joint major, joint honours, double major, two extended minors, an extended minor and a minor, or two minors may satisfy the breadth requirements (designated or not designated) with courses completed in either one or both program areas.

Residency Requirements and Transfer Credit

The University's residency requirement stipulates that, in most cases, total transfer and course challenge credit may not exceed 60 uits, and may not include more than 15 units as upper division work.

- At least half of the program's total units must be earned through Simon Fraser University study
- At least two thirds of the program's total upper division units must be earned through Simon Fraser University study
- At least two thirds of the upper division units in the courses of a school offering (or joint offer) must be earned through that school at Simon Fraser University
- For information regarding transfer, consult an Advisor.

Elective Courses

In addition to the courses listed above, students should consult an academic advisor to plan the remaining required elective courses. **In order to complete an honours degree in 124 units, students are encouraged to use upper division B-soc and B-hum courses to complete these electives rather than fulfill their B-soc and B-hum requirements with Lower Division courses.**

An elective course is any university course outside of the student's program requirements.

Research and Directed Reading Courses

For honours degree credit, students are limited to 18 undergraduate (or graduate) research courses and/or directed reading units. These include courses such as MBB 481, 482, 483, 490, 491, 492, ~~871, 872, 873~~ and corresponding courses offered by other departments (e.g. BISC 490, 491, 492, 498, 499~~, 888, 889, 890~~).

If students complete more than 18 units of these courses, they may not apply the extra units toward the degree total (~~132~~ **124** for honours). In addition, honours students may not complete more than 15 research and/or reading units in one term.

Motion:
Change the Calendar Description to the Lower Division requirements to the Major Program in MBB and the Honours Program in MBB

Rationale: addition of Chem380 as an option to Chem215

Deletions in ~~STRIKETHROUGH~~ font, additions in **BOLD** font

Lower Division Requirements

Students complete a total of 52-58 units, including all of

BISC 101 - General Biology (4)
BISC 102 - General Biology (4)
BISC 202 - Genetics (3)
CHEM 121 - General Chemistry and Laboratory I (4)
CHEM 122 - General Chemistry II (2)
CHEM 126 - General Chemistry Laboratory II (2)
~~CHEM 215 - Introduction to Analytical Chemistry (4)~~
CHEM 281 - Organic Chemistry I (4)
CHEM 286 - Organic Chemistry Laboratory II (2)
MBB 222 - Molecular Biology and Biochemistry (3)
MBB 231 - Cellular Biology and Biochemistry (3)

and both of

CHEM 282 - Organic Chemistry II (2)
CHEM 215 - Introduction to Analytical Chemistry (4)

Or both of

CHEM 283 - Organic Chemistry IIb (3)
CHEM 380 – Chemical and Instrumental Methods of Identification of Organic Compounds (4)

Motion:
Change the Calendar Description to the Upper Division requirements to the minor Program in MBB

Rationale: to reflect the number change of MBB300 to MBB400 and to exclude a new one unit directed readings course (MBB471)

Deletions in ~~STRIKETHROUGH~~ font, additions in **BOLD** font

Upper Division Requirements

Students complete a total of 14-18 units, consisting of five upper division MBB courses (and any lower division prerequisites) excluding MBB ~~300~~, **400**, **471**, 481, 482, 483 and 492.

COURSE SUBJECT/NUMBER MBB 429.

COURSE TITLE

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

RNA-mediated Gene Regulation

AND

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

RNA-mediated Gene Regulation

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

COURSE DESCRIPTION (FOR CALENDAR). 50-60 WORDS MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.

RNA plays an important role in gene regulation. This course will explore recent primary literature studying the biochemistry of these processes.

REPEAT FOR CREDIT ◉ NO ○ YES 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 In progess

RATIONALE FOR INTRODUCTION OF THIS COURSE

In MBB, students are taught about the catalytic and substrate recognition properties of protein and about the information encoding role of DNA. They have little appreciation for the dual roles of RNA, which performs cellular functions that span those of protein and DNA often simultaneously. An explicit aim of this course is to complement the material taught in MBB421 (nucleic acids) by studying the biochemistry of a broad range of regulatory RNAs.

SCHEDULING AND ENROLLMENT INFORMATION

Indicate effective **term and year** course would first be offered and planned **frequency** of offering thereafter:

Fall 2015

Will this be a required or elective course in the curriculum? ○ Required ◉ Elective

What is the probable enrollment when offered? Estimate: 50

CREDITS
Indicate number of credits (units): 3 units with four lecture hours per week

Indicate number of hours for:	Lecture	Seminar	Tutorial	Lab	Other
	4				

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

Peter Unrau, Dipankar Sen

WQB DESIGNATION (attach approval from Curriculum Office)

PREREQUISITE
Does this course replicate the content of a previously-approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

MBB331

COREQUISITE

STUDENT LEARNING OUTCOMES
Upon satisfactory completion of the course students will be able to:

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

Articulation agreement reviewed?	○ YES	○ NO	◉ Not applicable
Exam required:	● YES	○ NO	
Criminal Record Check required:	○ YES	○ NO	

APPROVALS: APPROVAL IS SIGNIFIED BY DATE AND APPROPRIATE SIGNATURE.

1 **Departmental approval indicates that the Department or School has approved the content of the course, and has consulted with other Departments/Schools/Faculties regarding proposed course content and overlap issues.**

_____

Chair, Department/School **Date**

_____

Chair, Faculty Curriculum Committee **Date**

2 **Faculty approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/School/Department commits to providing the required Library funds.**

_____

Dean or designate **Date**

LIST which other Departments, Schools and Faculties have been consulted regarding the proposed course content, including overlap issues. Attach documentary evidence of responses.

Other Faculties' approval indicates that the Dean(s) or Designate of other Faculties AFFECTED by the proposed new course support(s) the approval of the new course:

_____ Date _____

_____ Date _____

3 **SCUS approval indicates that the course has been approved for implementation subject, where appropriate, to financial issues being addressed.**

COURSE APPROVED BY SCUS (Chair of SCUS):

_____ Date _____

SFU

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

COURSE SUBJECT/NUMBER MBB 463

COURSE TITLE

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

Forensic Genomics

AND

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

Forensic Genomics

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

COURSE DESCRIPTION (FOR CALENDAR). 50-60 WORDS MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.

A focus on the molecular and genomic biology associated with forensic science, including genome structure, genotyping, genetic analysis of DNA fingerprints, DNA data bases and CODIS, Y STRs, mtDNA and ethical considerations of DNA typing.

REPEAT FOR CREDIT ◉ NO ○ YES 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: In progress

RATIONALE FOR INTRODUCTION OF THIS COURSE

The MBB department has a dynamic "omics" group and now offers a Certificate in Genomics. Two of the courses previously part of the certificate (MBB435 and MBB442) are no longer offered and a new course is essential to this program. Forensic Genomics has been offered as a special topics course and recieved with enthusiasm by students and the topics complement, but do not overlap with our other "omics" courses.

SCHEDULING AND ENROLLMENT INFORMATION

Indicate effective **term and year** course would first be offered and planned **frequency** of offering thereafter:

Summer 2015 and every summer thereafter

Will this be a required or elective course in the curriculum? ○ Required ◉ Elective

What is the probable enrollment when offered? Estimate: 50

CREDITS
Indicate number of credits (units): 3 units with 4 lecture hours per week

Indicate number of hours for: Lecture Seminar Tutorial Lab Other

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

Davidson, Morin, Brinkman, Chen, Holt

WQB DESIGNATION (attach approval from Curriculum Office)

PREREQUISITE
Does this course replicate the content of a previously-approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

MBB331

COREQUISITE

STUDENT LEARNING OUTCOMES
Upon satisfactory completion of the course students will be able to:

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

RESOURCES

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

none

OTHER IMPLICATIONS

Articulation agreement reviewed?	○ YES	○ NO	◉ Not applicable
Exam required:	● YES	○ NO	
Criminal Record Check required:	○ YES	○ NO	

APPROVALS: APPROVAL IS SIGNIFIED BY DATE AND APPROPRIATE SIGNATURE.

1 **Departmental approval indicates that the Department or School has approved the content of the course, and has consulted with other Departments/Schools/Faculties regarding proposed course content and overlap issues.**

_____

Chair, Department/School **Date**

_____

Chair, Faculty Curriculum Committee **Date**

2 **Faculty approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/School/Department commits to providing the required Library funds.**

_____

Dean or designate **Date**

LIST which other Departments, Schools and Faculties have been consulted regarding the proposed course content, including overlap issues. Attach documentary evidence of responses.

Other Faculties' approval indicates that the Dean(s) or Designate of other Faculties AFFECTED by the proposed new course support(s) the approval of the new course:

_____ Date _____

_____ Date _____

3 **SCUS approval indicates that the course has been approved for implementation subject, where appropriate, to financial issues being addressed.**

COURSE APPROVED BY SCUS (Chair of SCUS):

_____ Date _____

SFU

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

☐ Course number ☐ Credit ☐ Title ☐ Description ■ Prerequisite ☐ Course deletion ☐ Learning Outcomes

Indicate number of hours for: Lecture 3 Seminar _____ Tutorial 1 Lab _____

FROM
Course Subject/Number MBB422

TO
Course Subject/Number _____

Credits _____

Credits _____

TITLE

(1) LONG title for calendar and schedule, no more than 100 characters including spaces and punctuation.

FROM:

TO:

(2) SHORT title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

FROM:

TO:

DESCRIPTION
FROM:

DESCRIPTION
TO:

PREREQUISITE

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

FROM: MBB 322 with a minimum grade of C.

PREREQUISITE

TO: MBB 322 and MBB309W with a minimum grade of C, MBB324 as a pre or co-requisite

LEARNING OUTCOMES

RATIONALE

Students are insufficiently prepared with respect to biochemical measurements and techniques unless they have taken MBB309W so MBB309W will now be added as a pre-requisite so that all students have the appropriate biochemical background. MBB324 is a new course that complements the topics in MBB422 as is therefore added as a pre or co-requisite.

Effective term and year

Motions: Program Change for KIN Minor and Program Change for BPK Major and Honours

1. BPK MOTION : Add BPK 340 to list of approved courses for a KINESIOLOGY Minor.

BPK 340 - Active Health: Behavior and Promotion (3)

Relationships among health, physical activity, and other health-associated behaviors are examined. In addition, the theories and models of health behavior, in the context of intervention and promotion strategies, are discussed. Pertinent background information is provided, concerning the influence of fitness on various disease states, as well as the epidemiology of health and exercise behaviors. Students with credit for KIN 340 may not take this course for further credit. Prerequisite: REQ-BPK (or KIN) 142, STAT 201 (or PSYC 201). Recommended: Recommended: BPK (or KIN) 140.

Rationale : Originally BPK 340 was restricted to majors as it was required for all KIN majors who made up a vast majority of our students. With the increased popularity of the BIF major (which does not require 340), and increased offerings of BPK 340, there is now room to accommodate KIN minors in this course. This course is of interest to KIN minors and should be able to be counted towards their degree.

TO:

Program Requirements

Students complete

BPK 142 - Introduction to Kinesiology (3)
and one of

BPK 105 - Fundamentals of Human Structure and Function (3)
BPK 205 - Introduction to Human Physiology (3)
BPK 208 - Introduction to Physiological Systems (3)
and three of the following, one of which must be a 200 division course

BPK 110 - Human Nutrition: Current Issues (3)
BPK 111 - Food and Food Safety (3)
BPK 140 - Contemporary Health Issues (3)
BPK 143 - Exercise: Health and Performance (3)
BPK 180W - Introduction to Ergonomics (3)
BPK 201 - Biomechanics (3)
BPK 207 - Human Motor Systems (3)

BPK 212 - Food and Society (3)
BPK 241 - Sports Injuries - Prevention and Rehabilitation (3)
and one of

BPK 325 - Basic Human Anatomy (3)
BPK 342 - Active Health (3)
and four of

BPK 303 - Kinanthropometry (3)
BPK 305 - Human Physiology I (3)
BPK 306 - Human Physiology II (Principles of Physiological Regulation) (3)
BPK 310 - Exercise/Work Physiology (3)
BPK 311 - Applied Human Nutrition (3)
BPK 312 - Nutrition for Fitness and Sport (3)
BPK 325 - Basic Human Anatomy (3)
BPK 340 – Active Health: Behavior and Promotion (3)
BPK 342 - Active Health (3)
BPK 375 - Human Growth and Development (3)
BPK 381 - Psychology of Work (3)
BPK 382 - Workplace Health (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 431 - Integrative Cancer Biology (3)
BPK 461 - Physiological Aspects of Aging (3)

A minimum GPA of 2.0 calculated over 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 from those upper division biomedical physiology and kinesiology courses used to satisfy the requirements. There is a maximum number of allowable transferable units that count toward the minor program from any other institution, including the Open Learning Agency.

2. BPK MOTION : Restrict Biomedical Physiology and Behavioral Neuroscience Major and Honors students from taking BPK 342 for credit, as it is designed for non-majors.

SFU

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

☐ Course number ☐ Credit ☐ Title ☒ Description ☐ Prerequisite ☐ Course deletion ☐ Learning Outcomes

Indicate number of hours for: Lecture _____ Seminar_____ Tutorial _____ Lab _____

FROM
Course Subject/Number BPK 342

TO
Course Subject/Number _____

Credits _____

Credits_____

TITLE

(1) LONG title for calendar and schedule, no more than 100 characters including spaces and punctuation.

FROM:

TO:

(2) SHORT title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

FROM:

TO:

DESCRIPTION

FROM:

An extension of BPK (or KIN) 143, Exercise Management, this course parallels the on-campus course BPK (or KIN) 343. This course is designed for students completing the health and fitness certificate and/or a kinesiology minor. The goal of the course is to provide students with an opportunity to appreciate principles of exercise leadership, assess individual fitness needs, design programs and monitor effects of prescribed exercise. This course is available only through distance education. Kinesiology majors and honors students may not receive credit for BPK (or KIN) 342. Students with credit for KIN 342 or BPK (or KIN) 343 may not take this course for further credit.

DESCRIPTION

TO:

An extension of BPK (or KIN) 143, Exercise Management, this course parallels the on-campus course BPK (or KIN) 343. This course is designed for students completing the health and fitness certificate and/or a kinesiology minor. The goal of the course is to provide students with an opportunity to appreciate principles of exercise leadership, assess individual fitness needs, design programs and monitor effects of prescribed exercise. This course is available only through distance education. Biomedical Physiology, Behavioural Neuroscience and Kinesiology majors and honors students may not receive credit for BPK (or KIN) 342. Students with credit for KIN 342 or BPK (or KIN) 343 may not take this course for further credit.

PREREQUISITE

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

FROM:

PREREQUISITE

TO:

LEARNING OUTCOMES

RATIONALE

This course is designed for KIN Minor and Health and Fitness Certificate students who are non-majors. Major students should be taking BPK 343 which has more rigorous prerequisites appropriate for their knowledge base.

Effective term and year Fall 2015

Proposed Changes to CHEMISTRY B.Sc. (Honours) Degree Requirements

PROPOSED CHANGE: Reduce total minimum required credits from 132 to 122. All other requirements (including all specified courses and science electives) remain intact.

Rationale: Students have the option to complete an Honours Degree with fewer open electives (if they take some UD Breadth). There is no loss of rigour but students can technically reduce their courseload by 10 units, saving time and money. This is in keeping with recent Senate-approved changes that reduce minimum Honours Degree credit limits from 132 to 120.

Deletions in ~~STRIKETHROUGH~~ font, additions in **BOLD** font (areas changed are also highlighted for clarity)

SCUS 14-53d

Chemistry Honours

BACHELOR OF SCIENCE

Students intending to specialize in Chemistry

The point at which a high school or regional college student enters the chemistry program is governed by the student's subject knowledge. CHEM 110 and 111 are not required for the BSc degree but are available as electives to those with no chemistry knowledge or who are starting from BC high school chemistry 11. Those with BC high school chemistry 12 (or equivalent) normally start with CHEM 121. Major and honours students must fulfill program requirements below. Whether majoring in chemistry or not, students may not enrol in any CHEM course for which a D grade was obtained in any prerequisite.

Students are encouraged to complete the Department of Physics' standard stream (PHYS 120, 121, 131) or advanced stream (PHYS 125, 126, 131). Students may also choose to complete the studio physics stream (PHYS 140, 141). Students who complete the life sciences stream (PHYS 101, 102, 130, with a minimum B grade), which has a BISC 100 or 101 or 102 corequisite, should have sufficient preparation for the major program.

The following statements clarify and standardize the minimum requirements that a student must fulfill to complete a chemistry course as well as those to pass a combination lecture/laboratory course.

Course non-completion

The following will constitute non-completion of the required material in a chemistry

course. -• not writing the final examination or its equivalent

• not completing the required minimum number of experiments in a laboratory course or the laboratory component of a course

• not completing additional or alternative material specified by the instructor

The letter grade N will be awarded in these cases.

Students must pass both the lecture and laboratory components individually to obtain a passing grade in lecture/laboratory combination courses.

Program Requirements

Students complete a minimum of ~~132~~ **122** units, as specified below.

Mathematics and physics courses should be completed as early as possible.

For an example of a typical program schedule, visit http://www.sfu.ca/chemistry/undergraduate.html#courseSequence

Lower Division Requirements

Students complete 62-63 units, including all of

CHEM 121 –General Chemistry and Laboratory I
(4) CHEM 122 –General Chemistry II (2)
CHEM 126 –General Chemistry Laboratory II (2)
CHEM 215 –Introduction to Analytical Chemistry
(4) CHEM 230 –Inorganic Chemistry (3)
CHEM 236W –Inorganic Chemistry Laboratory
(3) CHEM 260 –Atoms, Molecules, Spectroscopy
(4) CHEM 266 –Physical Chemistry Laboratory I
(2) CHEM 281 –Organic Chemistry I (4)
CHEM 283 –Organic Chemistry IIb (3)
CHEM 286 –Organic Chemistry Laboratory II
(2) MATH 152 –Calculus II (3)
MATH 232 –Applied Linear Algebra
(3) MATH 251 –Calculus III (3)
MBB 222 –Molecular Biology and Biochemistry
(3) PHYS 211 –Intermediate Mechanics (3)
PHYS 231 –Physics Laboratory II (3)

and one of

MATH 150 –Calculus I with Review
(4) MATH 151 –Calculus I (3)

and all of

PHYS 120 –Mechanics and Modern Physics (3)
PHYS 121 –Optics, Electricity and Magnetism
(3) PHYS 131 –Physics Laboratory I (2)

or all of

PHYS 125 – Mechanics and Special Relativity
(3) PHYS 126 – Electricity, Magnetism and
Light (3) PHYS 131 –Physics Laboratory I (2)

or both of

PHYS 140 –Studio Physics –Mechanics and Modern Physics (4)
PHYS 141 –Studio Physics –Optics, Electricity and Magnetism
(4)

Upper Division Requirements

Students complete 48 units, including all of

CHEM 316 –Introductory Instrumental Analysis (4)
CHEM 332 –The Chemistry of Transition Metals (3)
CHEM 336 –Advanced Inorganic Chemistry Laboratory (2)
CHEM 360 –Thermodynamics and Chemical Kinetics (3)
CHEM 366W –Physical Chemistry Laboratory II (3)
CHEM 380 –Chemical and Instrumental Methods of Identification of Organic Compounds (4)
CHEM 481 –Undergraduate Research (5)
NUSC 341 –Introduction to Radiochemistry (3)

and one of

CHEM 460 –Advanced Physical Chemistry (3)
CHEM 464 –Quantum Chemistry (3)

and an additional 18 upper division units in CHEM, MBB or NUSC courses, including at least nine units of 400 division CHEM courses.

Electives

In addition to the above, students complete ~~21-22~~ **at least 12** elective units,

including courses chosen to fulfill the WQB requirements

~~upper-division courses from any faculty (excluding EDUC 401-407) to total a minimum of 60 upper-division units~~

electives at any division from any faculty to provide the minimum ~~132~~ **122** units for the honours

Those specializing in physical or theoretical chemistry should complete more mathematics courses than specified above and a course in computer programming.

In order to complete a Chemistry Honours degree in 122 units, students are encouraged to use upper division B-soc and B-hum courses to complete these electives rather than fulfill their B-soc and B-hum requirements with Lower Division courses.

Writing, Quantitative, and Breadth Requirements

Students admitted to Simon Fraser University beginning in the fall 2006 term must meet writing, quantitative and breadth requirements as part of any degree program they may undertake. See Writing, Quantitative, and Breadth Requirements for university-wide information.