SFU OFFICE OF THE ASSOCIATE VICE-PRESIDENT, ACADEMIC AND ASSOCIATE PROVOST

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**	January 11, 2010
FROM	Bill Krane, Chair	**PAGES**	1/2
RE:	Senate Committee on Undergraduate Studies Faculty of Science (SCUS 10-05)		

For information:

Acting under delegated authority at its meeting of January 7, 2010, SCUS approved the following curriculum revisions:

1. Biomedical Physiology and Kinesiology (SCUS 10-05a)

   (i) Requirement changes for the Ergonomics Concentration
   (ii) Modify list of CCUPEKA social science and humanities courses for KIN majors
   (iii) Changes to description and prerequisite for KIN 415 and 488
   (iv) Changes to the Kinesiology Minor Program

2. Department of Chemistry (SCUS 10-05b)

   (i) Prerequisite change to SCI 300
   (ii) Prerequisite change to CHEM 360

3. Earth Sciences (SCUS 10-05c)

   (i) Prerequisite change to EASC 403

4. General Science Program (SCUS 10-05d)

   (i) Change in program title and requirements and addition of biomedical physiology minor.

5. Department of Mathematics (SCUS 10-05e)

   (i) New course proposals:
   MACM 203-2, Computing with Linear Algebra
   MACM 204-2, Computing with Calculus
   MACM 294-2, Computational Studies in Mathematics

6. Department of Molecular Biology and Biochemistry (SCUS 10-05f)

(i) New course proposal: MBB 242-3, Introductory Genomics
(ii) Prerequisite, title and description changes for MBB 402, 421, 422, 423, 430, 435, 436, 441, 442, 443, 444, 437 and 438.

7. Department of Physics (SCUS 10-05g)

(i) Prerequisite changes to PHYS 395, 455 and 347

Senators wishing to consult a more detailed report of curriculum revisions may do so on the Web at http://www.sfu.ca/senate/Senate_agenda.html following the posting of the agenda. If you are unable to access the information, please call 778-782-3168 or email bgrant@sfu.ca.
For information:

SFU

TO: Bill Krane, Chair, SCUS

FROM: Rolf Mathewes, Associate Dean
Faculty of Science

RE: Faculty of Science
Undergraduate Curriculum
Items

DATE: December 16, 2009

The Faculty of Science has approved the following, which must now be considered by SCUS.

Please place these items on the agenda of the next SCUS meeting.

1. **Biomedical Physiology & Kinesiology**
   Changes to Ergonomics Concentration
   Modifications to Breadth Recommendations - CCUPEKA
   KIN 415-3 - Course description change
   KIN 488-3 - Prerequisite change
   Changes to Kinesiology Minor Program

2. **Chemistry**
   Changes to Nuclear Science Minor
   SCI 300-3 - Description Change
   CHEM 360-3 – Prerequisite Change

3. **Earth Sciences**
   EASC 403-3 – Prerequisite change
   EASC 405-3 – New course proposal

4. **General Science Program**
   Change in title, addition of biomedical physiology minor and changes to the minor order

5. **Mathematics**
   Changes to the BC Calculus Examination Certificate
   Changes to Beginning Level Requirements
   Changes to various Math programs: Applied Mathematics Major & Honours, Industrial Mathematics, Mathematics Major and Honours, Mathematics & Computing Science (MACM) Joint Major and Joint Honours
   Prerequisite changes: MATH 100-3, MATH 130-3, MATH 151-3, MATH 198-4, MATH 208-3, MATH 242-3, MATH 251-3, MATH 302-3, MATH 303-3, MATH 304-3
   MATH 310-3, MATH 340-3, MATH 402-4
   Description and Prerequisite Changes: MATH 152-3, MATH 232-3, MATH 240-3
   Description Changes: MATH 154-3, MATH 155-3, MATH 467-3
   Title, Description and Prerequisite Change: MATH 308-3
   New course proposals: MACM 203-2, MACM 204-2, MATH 294-2

6. **Molecular Biology & Biochemistry**
   New course proposal: MBB 242 -3
   Prerequisite changes: MBB 402-3, MBB 421-3, MBB 422-3, MBB 423-3, MBB 430-3, MBB 435-3, MBB 436-3, MBB 441-3, MBB 442-3, MBB 443-3, MBB 444-3
   Title, Description and Prerequisite change: MBB 437-3
   Description and Prerequisite change: MBB 438-3

7. **Physics**
   Prerequisite changes: PHYS 395-3, PHYS 455-3, PHYS 347-3

R. Mathewes

Enclosures
c. J. Hinchliffe, M. Plischke

Ergonomics and Human Factors Concentration Requirements

RATIONALE: To allow students to enter and complete the program in a more timely fashion , more options for completion are proposed. Some editorial changes were also needed.

~~MOTION~~ SUMMARY

1. To remove KIN 383 and KIN 486 as stream requirements and delete them from the calendar.

2. To replace KIN 383 with IAT 333 or IAT 334 (moved up from electives)

3. To replace KIN 486 with IAT 432

4. To move KIN 380 to required

5. To remove KIN 303 from required to "four of"

6. To remove IAT 335 (no longer exists)

7. Total upper division required credits is 52

8. Remove the recommended IAT courses from electives (see #2)

FROM: p 188

Current Calendar Description
Ergonomics and Human Factors Concentration
Students choosing this concentration must complete
KIN 303-3 Kinanthropometry
KIN 488-3 Ergonomics Laboratory 6 units
and four of*
KIN 310-3 Exercise/Work Physiology
KIN 380-3 Occupational Biomechanics
KIN 381-3 Psychology of Work
KIN 382-3 Physical Hazards in the Workplace
KIN 383-3 Human-Machine and Human-Computer Interaction
KIN 481-3 Activity-Generated Musculoskeletal Disorders
KIN 486-3 Human Factors in Industrial Design
12 units
*The remaining three courses in the above list that are not used, may be used as electives (see electives
course list below).
and six of
GERO 401-3 Aging and the Built Environment

IAT 333-3 Interaction Design Methods†
IAT 334-3 Interface Design†
IAT 335-3 Analysis of Design Situations†
KIN 343-3 Active Health: Assessment and Programming
KIN 367-3 Psychology of Motor Skill Acquisition
KIN 402-3 Mechanical Properties of Tissues
KIN 415-3 Neural Control of Movement
KIN 416-3 Control of Limb Mechanics
KIN 442-3 Biomedical Systems
KIN 448-3 Rehabilitation of Movement Control
KIN 461-3 Physiological Aspects of Aging
KIN 467-3 Human Motor Control
KIN 484-3 Altitude and Aerospace Physiology
KIN 485-4 Human Factors in the Underwater Environment
KIN 420-3 Selected Topics I*
KIN 421-3 Selected Topics II*
KIN 422-3 Selected Topics III*
KIN 423-3 Selected Topics IV*
KIN 496-3 Directed Studies I*
KIN 498-3 Directed Studies II*
†requires additional prerequisites
*can be counted towards area of concentration if relevant to ergonomics or human factors. See the area of concentration head for permission to count any of these towards the area of concentration requirement. Relevant courses from other departments may be considered as electives upon advance approval by the ergonomics and human factors concentration steering committee. 18 units
Total 55 units
A further 10 lower or upper division units of electives may be completed from any discipline within the university. The following are recommended.
IAT 201-3 Human-Computer Interaction and Cognition††
IAT 235-3 Information Design ††
††requires additional prerequisites
For the degree, students admitted September 2006 or subsequently must also complete WQB requirements with three units of writing-intensive credit at the upper division. This may be included within the 52 unit total.
For more information, see www.sfu.ca/ugcr.

TO:

Proposed Calendar Description
Ergonomics and Human Factors Concentration
Students choosing this concentration must complete
KIN 488-3 Ergonomics Laboratory
KIN 380-3 Occupational Biomechanics
6 units
and three of*

KIN 303-3 Kinanthropometry
KIN 310-3 Exercise/Work Physiology
KIN 381-3 Psychology of Work
KIN 382-3 Workplace Health
KIN 481-3 Activity-Generated Musculoskeletal Disorders
IAT 333-3 Interaction Design Methods†
IAT 334-3 Interface Design†
IAT 432-3 Design Evaluation
12 units
*The remaining five courses in the above list that are not used, may be used as electives (see electives course list below).
and six of
GERO 401-3 Aging and the Built Environment
KIN 343-3 Active Health: Assessment and Programming
KIN 367-3 Psychology of Motor Skill Acquisition
KIN 402-3 Mechanical Properties of Tissues
KIN 415-3 Neural Control of Movement
KIN 416-3 Control of Limb Mechanics
KIN 442-3 Biomedical Systems
KIN 448-3 Rehabilitation of Movement Control
KIN 461-3 Physiological Aspects of Aging
KIN 467-3 Human Motor Control
KIN 484-3 Altitude and Aerospace Physiology
KIN 485-4 Human Factors in the Underwater Environment
KIN 420-3 Selected Topics I*
KIN 421-3 Selected Topics II*
KIN 422-3 Selected Topics III*
KIN 423-3 Selected Topics IV*
KIN 496-3 Directed Studies I*
KIN 498-3 Directed Studies II*
†requires additional prerequisites
*can be counted towards area of concentration if relevant to ergonomics or human factors. See the area of concentration head for permission to count any of these towards the area of concentration requirement. Relevant courses from other departments may be considered as electives upon advance approval by the ergonomics and human factors concentration steering committee. 18 units
Total 52 units
A further 10 lower or upper division units of electives may be completed from any discipline within the university.
For the degree, students admitted September 2006 or subsequently must also complete WQB requirements with three units of writing-intensive credit at the upper division. This may be included within the 52 unit total.
For more information, see www.sfu.ca/ugcr.

BPK motion:

Motion

Modify list of CCUPEKA social science and humanities courses for KIN majors (6 units)

Rationale

- current list contains eliminated courses, and courses with extensive pre-requisites outside of the program.
- revised list will incorporate more SFU designated Breadth Humanities (B-HUM) and Social Science (B-SOC) Courses, allowing students to meet both the SFU and CCUPEKA requirements with the same course. SFU requires 6 units of B-HUM and 6 units of B-SOC.
- A secondary list will include non-SFU designated Breadth courses.

FROM:
The current calendar listing is included below p 189

Unspecified and Partially Specified Electives
A total of 23 elective units are required. Of these 23, six units must be from the social science and humanities course list (see "Social Science and Humanities Course List, Breadth Designated Courses" below) to meet CCUPEKA certification requirements. These 23 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. 23 units
Total 120 units

Social Science and Humanities Course List, Breadth Designated Courses
ARCH 105-3 The Evolution of Technology B-Soc
ARCH 201-3 Introduction to Archaeology B-Soc
CMNS 354-3 Communications and Social Issues in Design
COGS 100-3 Introduction to Cognitive Science B-Hum, B-Soc, B-Sci
CRIM 101-3 Introduction to Criminology B-Soc
CRIM 355-3 The Forensic Sciences B-Soc
FPA 129-3 Fundamental Integration of Human Movement
GEOG 386-3 Geography, Health and Health Care
GERO 300-3 Introduction to Gerontology B-Soc
GERO 302-3 Health Promotion and Aging
GERO 404-3 Health and Illness in Later Life

GERO 420-4 Sociology of Aging
HIST 409-3 Disease and Society
HUM 227-3 Introduction to the Study of the Future B-Hum
PHIL 001-3 Critical Thinking
PHIL 100-3 Knowledge and Reality B-Hum Writing-Intensive
PHIL 110-3 Introduction to Logic and Reasoning
PHIL 120-3 Introduction to Moral Philosophy B-Hum Writing-Intensive
PHIL 210-4 Natural Deductive Logic
PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
PHIL 300-3 Introduction to Philosophy B-Hum
PSYC 100-3 Introduction to Psychology I B-Soc
PSYC 102-3 Introduction to Psychology II B-Soc
PSYC 106-3 Psychological Issues in Contemporary Society B-Soc
PSYC 365-3 Health Psychology
SA 101-4 Introduction to Anthropology B-Soc
SA 150-4 Introduction to Sociology B-Soc
SA 218-4 Illness, Culture and Society
SA 318-3 Anthropology of Medicine

The calendar will read the following on p 189:
TO:

Unspecified and Partially Specified Electives

Additional elective units are required to meet the minimum degree requirement of 120 units. Of these, six units must be from the social science and humanities course list (see "Social Science and Humanities Course List" 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 CCUPEKA and SFU requirements.

Social Science and Humanities Course List

The following courses can be used to count towards the CCUPEKA requirements. They are also either B-HUM , B- SOC or both and count towards SFU Breadth requirements.

ARCH 105-3 The Evolution of Technology B-Soc
ARCH 201-3 Introduction to Archaeology B-Soc
BUS 130-3 Business in the Networked Economy I B-Soc
COGS 100-3 Introduction to Cognitive Science B-Hum, B-Soc, B-Sci
CMNS 110-3 Introduction to Communication Studies B-Soc
CRIM 101-3 Introduction to Criminology B-Soc
CRIM 355-3 The Forensic Sciences B-Soc
DIAL 390-5 Undergraduate Semester: Dialogue B-Soc W
DIAL 391-5 Undergraduate Semester: Seminar B-Soc W
DIAL 392-5 Undergraduate Semester: Final Project B-Soc W
EDUC 100-3.00 Selected Questions and Issues in Education Program
ENGL 101-105 W B-Hum

GERO 300-3 Introduction to Gerontology B-Soc
HIST 110-3 History of Science *effective September 2008 B-Hum, B-Sci
HUM 227-3 Introduction to the Study of the Future B-Hum
HSCI 120-3 Introduction to Human Sexuality and Sexual Behaviour B-Soc
HSCI 140-3 Complementary and Alternative Medicine B-Soc
HSCI 160-3 Global Perspectives on Health B-Soc
IAT 100-3 Systems of Media Representation B-Hum
IAT 202-3 New Media Images B-Hum
IAT 206-3 Media Across Cultures B-Hum
PHIL 100-3 Knowledge and Reality B-Hum Writing-Intensive
PHIL 120-3 Introduction to Moral Philosophy B-Hum Writing-Intensive
PHIL 144-3 Introduction to the Philosophy of Natural and Social Science B-soc / B-hum
PHIL 150-3 History of Philosophy I B-Hum
PHIL 151-3 History of Philosophy II B-Hum
PHIL 300-3 Introduction to Philosophy B-Hum
PSYC 100-3 Introduction to Psychology I B-Soc
PSYC 102-3 Introduction to Psychology II B-Soc
PSYC 106-3 Psychological Issues in Contemporary Society B-Soc
REM 100-3 Global Change B-Soc
SA 101-4 Introduction to Anthropology B-Soc
SA 150-4 Introduction to Sociology B-Soc

The following courses qualify for CCUPEKA Humanities or Social Science units, but not towards the SFU Breadth requirements.

FPA 129-3 Fundamental Integration of Human Movement
GERO 302-3 Health Promotion and Aging
GERO 404-3 Health and Illness in Later Life
GERO 420-4 Sociology of Aging
PHIL 001-3 Critical Thinking
PHIL 110-3 Introduction to Logic and Reasoning
PHIL 210-4 Natural Deductive Logic
SA 218-4 Illness, Culture and Society
SA 318-3 Anthropology of Medicine

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

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

FROM	**TO**
Course Number Kin 415	Course Number Kin 415
Credits (Units) 3	Credits (Units) 3

TITLE

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

Neural Control of Movement

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

DESCRIPTION

An in depth treatment of neurophysiology. Synaptic inputs and cell interactions in the spinal cord are used to illustrate the general principles of interaction in the nervous system. Other topics include central and peripheral motor control, the vestibular system and the visual system.

PREREQUISITE

Kin 306 or BISC 305 and Kin 326

DESCRIPTION

An in-depth study of the neurophysiology of movement. Illustrates general principles of neural control by exploring specific movement tasks including standing, walking, reaching/grasping, and eye movements.

PREREQUISITE

Kin 306 or BISC 305 and Kin 326

RATIONALE

The new proposed description better reflects the revised material presented in this course. This modification of the course content is based on the fact that a new instructor is taking over the primary role of teaching this course due to faculty retirement. This new instructor's expertise is slightly different than the previous instructor. In addition, it is hoped the new description and modified course content will entice a greater number of students to enroll given its new applied approach to the neural control of movement (i.e. focusing on specific movement tasks to teach neural control principles).

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**.

Effective term and year Spring 2010

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

Indicate number of hours for: Lecture_____ Seminar_____ Tutorial_____ Lab_____

FROM	**TO**
Course Number Kin 488	Course Number Kin 488
Credits (Units) 3	Credits (Units) 3

TITLE

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

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

DESCRIPTION

A project based laboratory course that applies theoretical knowledge to industrial situations. Instruction will be provided in proposal development, evaluation techniques, and report writing. Students will complete projects in human-machine interaction,occupational ergonomics and industrial design.

PREREQUISITE

Kin 180 plus at least four of the following: Kin 380,381,382,481,442,486 and CMNS 554

DESCRIPTION

A project based laboratory course that applies theoretical knowledge to industrial situations. Instruction will be provided in proposal development, evaluation techniques, and report writing. Students will complete projects in human-machine interaction, occupational ergonomics and industrial design.

PREREQUISITE

KIN 180W and KIN 380 plus any 2 of the following: KIN 381, KIN 382, KIN 481, IAT 333, IAT 334, IAT 432, or KIN 496*, KIN 498*, KIN 497* (*if ergonomics related)

RATIONALE

We are attempting to allow students to take Kin 488 earlier in their program, while still assuring they have sufficient background in ergonomics.

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**.

Effective term and year 2010 - January

12.

Rationale : The admission process has been streamlined to allow earlier entry into the program, this will allow students to enter classes with seat reservations or those in a Kinesiology program.

With the introduction of the Biomedical Physiology Minor, we feel that a shorter list of Kinesiology specific upper division courses should be targeted for the Kinesiology Minor.

1. **Change in application process**
2. **Decrease in lower division core courses, increase in electives**
3. **Limitation of Upper division electives to Kinesiology Specific courses**

FROM:

Kinesiology Minor Program (09-10 Calendar, p 190)
Application Requirements
Application requires
• completion of KIN 105 or 205 or 208, and KIN 142 and 143 with a minimum grade of C- in each course
• completion of two of KIN 110, 201, 207 or 241 with a minimum grade of C- in each
• submission of a program approval form to the undergraduate advisor.
Admission is competitive. The admission GPA is calculated each term on the five required courses. If one or more have been duplicated (repeated), grades from all course attempts will be used equally to calculate kinesiology's admission GPA.
Program Requirements
There is a maximum number of allowable transferable units that count towards the minor program from any other institution, including the Open Learning Agency.
Students complete
KIN 105-3 Fundaments of Human Structure and Function

and both of
KIN 142-3 Introduction to Kinesiology
KIN143-3 Exercise Management

and two of
KIN 110-3 Human Nutrition: Current Issues
KIN 201-3 Biomechanics
KIN 207-3 Information Processing in Human Motor Systems
KIN 241-3 Sports Injuries — Prevention and Rehabilitation

and one of
KIN 325-3 Basic Human Anatomy
KIN 342-3 Active Health
KIN 367-3 Psychology of Motor Skill Acquisition

plus 12 additional upper division kinesiology units
A minimum GPA of 2.0 calculated over all 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 kinesiology courses used to satisfy the requirements.

TO:

Kinesiology Minor Program (Proposed changes)
Application Requirements
Application for a kinesiology minor requires
• completion of three of the lower division requirements with a minimum grade of C- in each course
• submission of a program approval form to the undergraduate advisor.
Admission is competitive. The admission GPA is calculated each term on the three required courses. If one or more have been duplicated (repeated), grades from all course attempts will be used equally to calculate kinesiology's admission GPA.
Program Requirements
There is a maximum number of allowable transferable units that count towards the minor program from any other institution, including the Open Learning Agency.
See "Residency Requirements" on page 111.

Students complete one of
KIN 105-3 Fundaments of Human Structure and Function
KIN 205-3 Introduction to Human Physiology
KIN 208-3 Introduction to Physiological Systems

and
KIN 142-3 Introduction to Kinesiology

and three of, one of which must be second year
KIN 110-3 Human Nutrition: Current Issues
KIN 111-3 Food and Food Safety
KIN 140-3 Contemporary Health Issues
KIN 143-3 Exercise: Health and Performance
KIN 180W-3 Introduction to Ergonomics
KIN 201-3 Biomechanics
KIN 207-3 Information Processing in Human Motor Systems
KIN 212-3 Food and Society
KIN 241-3 Sports Injuries — Prevention and Rehabilitation

and one of
KIN 325-3 Basic Human Anatomy
KIN 342-3 Active Health
plus four additional upper division kinesiology courses from the following list;
KIN 303-3 Kinanthropometry
KIN 310-3 Exercise/Work Physiology
KIN 311-3 Applied Human Nutrition
KIN 312-3 Nutrition for Fitness and Sport
KIN 325-3 Basic Human Anatomy (if not already counted above)

KIN 342-3 Active Health (if not already counted above)
KIN 367-3 Psychology of Motor Skill Acquisition
KIN 375-3 Human Growth and Development
KIN 380-3 Occupational Biomechanics
KIN 381-3 Psychology of Work
KIN 382-3 Workplace Health
KIN 420-3 Selected Topics I*
KIN 421-3 Selected Topics II*
KIN 422-3 Selected Topics III*
KIN 423-3 Selected Topics IV*
KIN 431-3 Environmental Carcinogenesis
KIN 461-3 Physiological Aspects of Aging
KIN 488-3 Ergonomics Laboratory

*must be selected topics courses in kinesiology
A minimum GPA of 2.0 calculated over all 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 kinesiology courses used to satisfy the requirements.

SFU

SENATE COMMITTEE ON
UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

EXISTING COURSE, CHANGES RECOMMENDED

SCUS 10-05b

Please check appropriate revision(s)

☐ Course number ☐ Credit ☐ Title ☐ Description ☒ Prerequisite ☐ Deletion

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

FROM :	**TO:**
Course Number SCI 300	Course Number SCI 300 Credit
Hour 3	Credit Hour 3

TITLE

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

Science and its Impact on Society	Science and its Impact on Society

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

DESCRIPTION

PREREQUISITE

60 units. Not open to students in the Faculty of Science or the Schools of Computing Science, Engineering Science and Kinesiology. Breadth-Science.	60 units. Not open to students in the Faculty of Science or the Schools of Computing Science and Engineering Science. Breadth-Science.

RATIONALE

With the incorporation of the Department of Kinesiology into the Faculty of Science, the Calendar language to restrict this course from students in Kinesiology became redundant.

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**.

Effective term and year Fall 2010

SFU

SENATE COMMITTEE ON
UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s)

☐ Course number ☐ Credit ☐ Title ☐ Description ☒ Prerequisite ☐ Deletion

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

FROM :	**TO:**
Course Number CHEM 360	Course Number CHEM 360 Credit
Hour 3	Credit Hour 3

TITLE

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

Thermodynamics and Chemical Kinetics	Thermodynamics and Chemical Kinetics

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

DESCRIPTION

PREREQUISITE

CHEM 122 (or 103), MATH 152 (or 155), PHYS 121 (or 102). Recommended: MATH 251. Quantitative.	CHEM 122 (or 103), MATH 152 (or 155), PHYS 121 (or 102). Recommended: MATH 251. Credit will not be granted for both CHEM 360 and MBB 323. Quantitative.

RATIONALE

The new proposed prerequisite description includes the sentence "Credit will not be granted for both CHEM 360 and MBB 323". This reflects the fact that there is considerable overlap in course content such that students should only be able to take one or the other.

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**.

Effective term and year Fall 2010

SCUS 10-05c

SIMON FRASER UNIVERSITY
Course Change Form

Existing Course Number/Title:

EASC 403-3 Quaternary Geology

Please check appropriate revision(s) being recommended:

Course Number:_____ Credit Hour: _____ Title: _____

Description: _____ Prerequisite: __X__ Vector: _____

Prerequisite

From:

Prerequisite: EASC 201 and GEOG 313 or permission of instructor.

To:

Prerequisite: EASC 201 and GEOG 213. Recommended: EASC 303 and GEOG 313.

Rationale:

Students receive an introduction to glacial geomorphology in GEOG 213 which provides them with a background sufficient to take EASC 403. Geography 313 is mainly concerned with Fluvial Geomorphology which has marginal application to the course content of EASC 403.

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

No.

Effective date: 2010/2011 Calendar or 1st January 2010

Passed by the EASC Undergraduate Committee:

Brent Ward, Committee Chair

Date November 23, 2009

18.

FROM:

General Science Program

P9316 Shrum Science Centre, 778.782.3772 Tel, 778.782.3424 Fax,
www.sfu.ca/~science/degrees/general.html

Advisor

- Ms. R. Hotell, Faculty Assistant

This degree program provides broad education in several fields with specialization in at least two. It requires two minors chosen from below, one of which must be in the Faculty of Science. Restrictions for the combination of minors is listed below.

Students must have their selection of minors for the BSc general science program approved by the program advisor as early in their program as possible.

Only one minor may be selected from each of the following six subject areas.

- biological sciences, environmental toxicology, kinesiology
- molecular biology and biochemistry, chemistry, environmental chemistry
- mathematics, statistics, computing science
- physics, nuclear science
- earth science, physical geography
- archaeology, psychology

Because of the proximity of subject matter, the following combinations of minors are not acceptable:

- biological sciences, molecular biology and biochemistry
- molecular biology and biochemistry, environmental toxicology
- chemistry, nuclear science
- kinesiology, molecular biology and biochemistry
- environmental chemistry, environmental toxicology

Writing, Quantitative, and Breadth Requirements

Students completing degree programs must fulfil writing, quantitative and breadth requirements as part of their program. See "Writing, Quantitative, and Breadth Requirements" on page 7 for information.

Lower Division Requirements

Students complete all of
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
and all of
PHYS 101-3 Physics for the Life Sciences I
PHYS 102-3 Physics for the Life Sciences II
PHYS 130-2 Physics for the Life Sciences Laboratory
or all of
PHYS 120-3 Mechanics and Modern Physics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 General Physics Laboratory I
or all of
PHYS 140-4 Studio Physics – Mechanics and Modern Physics
PHYS 141-4 Studio Physics – Optics, Electricity and Magnetism
and both of
MATH 154-3 Calculus I for the Biological Sciences
MATH 155-3 Calculus II for the Biological Sciences
or both of
MATH 151-3 Calculus I (or MATH 150)
MATH 152-3 Calculus II
and one of

EASC 101-3 Physical Geology
GEOG 111-3 Earth Systems
and one lower or upper division statistics course

Other Requirements

The following general requirements must be satisfied.

- additional upper division courses (excluding EDUC 401-407) to total 44 units of upper division credit
- a 2.0 GPA in upper division courses required for each of two subject area minors, with a minimum C- grade in all courses used for the subject area minors

Consult departmental advisors about selection of upper division courses in subject minors. Students should include science-related courses such as PHIL 244, 341 and HIST 360, 361 in their programs.

To:

General Science **Double Minor**

P9316 Shrum Science Centre, 778.782.3772 Tel, 778.782.3424 Fax,
www.sfu.ca/~science/degrees/general.html

Advisor

- Ms. R. Hotell, Faculty Assistant

This degree program provides broad education in several fields with specialization in at least two. It requires two minors chosen from below, one of which must be in the Faculty of Science. Restrictions for the combination of minors is listed below.

Students must have their selection of minors for the BSc general science program approved by the program advisor as early in their program as possible.

Only one minor may be selected from each of the following six subject **combinations.**

• biological sciences, **biomedical physiology**, environmental toxicology, kinesiology, **molecular biology and biochemistry**

• molecular biology and biochemistry, chemistry, environmental chemistry, **environmental toxicology**

• mathematics, statistics, computing science

• physics, nuclear science

• earth science, physical geography

• archaeology, psychology

Because of the proximity of subject matter, the following combination of minors is not acceptable:

• chemistry, nuclear science

Writing, Quantitative, and Breadth Requirements

Students completing degree programs must fulfill writing, quantitative and breadth requirements as part of their program. See "Writing, Quantitative, and Breadth Requirements" on page 7 for information.

Lower Division Requirements

Students complete all of
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
and all of
PHYS 101-3 Physics for the Life Sciences I
PHYS 102-3 Physics for the Life Sciences II
PHYS 130-2 Physics for the Life Sciences Laboratory
or all of
PHYS 120-3 Mechanics and Modern Physics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 General Physics Laboratory I
or all of
PHYS 140-4 Studio Physics – Mechanics and Modern Physics
PHYS 141-4 Studio Physics – Optics, Electricity and Magnetism
and both of
MATH 154-3 Calculus I for the Biological Sciences
MATH 155-3 Calculus II for the Biological Sciences
or both of
MATH 151-3 Calculus I (or MATH 150)
MATH 152-3 Calculus II
and one of
EASC 101-3 Physical Geology
GEOG 111-3 Earth Systems
and one lower or upper division statistics course

Other Requirements

The following general requirements must be satisfied.

- additional upper division courses (excluding EDUC 401-407) to total 44 units of upper division credit
- a 2.0 GPA in upper division courses required for each of two subject area minors, with a minimum C- grade in all courses used for the subject area minors

Consult departmental advisors about selection of upper division courses in subject minors. Students should include science-related courses such as PHIL 244, 341 and HIST 360, 361 in their programs.

SFU

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

1 OF 3 PAGES

COURSE NUMBER MACM 203-2

COURSE TITLE

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

Computing with Linear Algebra

AND

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

Computing with Linear Algebra

CREDITS

Indicate number of credits for: Lecture 1 Seminar ____ Tutorial ____ Lab 1

COURSE DESCRIPTION (FOR CALENDAR). 3-4 LINES MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.

Development of computer models that analyze and illustrate applications of linear algebra. Topics include: large-scale matrix calculations, experiments with cellular automata, population models, data fitting and optimization, image analysis.

PREREQUISITE

One of CMPT 125, 126 or 128 AND one of MATH 150, 151, 154 or 157.

Students in excess of 75 units may not take MACM 203 for further credit. MATH 232 or 240 (can be taken as corequisite).

COREQUISITE

SPECIAL INSTRUCTIONS

That is, 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 prerequisiite**.

COURSES(S) TO BE DELETED IF THIS COURSE IS APPROVED
NOTE: APPROPRIATE DOCUMENT FOR DELETION MUST BE SUBMITTED TO SCUS

NONE (will be offered in place of MACM 202-4 for two years)

RATIONALE FOR INTRODUCTION OF THIS COURSE

Replaces half of MACM 202-4 requirement. Computer applications are more closely integrated with the scheduled syllabus of linear algebra (Math 232/240).

SCHEDULING AND ENROLLMENT INFORMATION

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

Spring 2011 and every Spring thereafter

(NOTE: There is a two-term wait for implementation of any new course.)

Indicate if there is a waiver required: ☐ YES ☑ NO Will this be a required or elective course in the curriculum? ☑ Required ☐ Elective

What is the probable enrollment when offered? Estimate 60

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

Williams, Monagan, Muraki and others

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO
(If yes, attach mandatory supplementary fee approval form.)

RESOURCE IMPLICATIONS

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.

Campus where course will be taught Burnaby

Library report status (see e-mail attached)

Provide details on how existing instructional resources will be redistributed to accommodate this new course. For example, will another course be eliminated or will the frequency of offering of other courses be reduced; are there changes in pedagogical style or class sizes that allow for this additional course offering?

MACM 203-2 (and MACM 204-2) will be offered in place of MACM 202-4.

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

Lab hour for each section will require use of computing lab.

Articulation agreement reviewed? ☐ YES ☐ NO ☐ Not applicable

OTHER IMPLICATIONS

SFU

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

1 OF 3 PAGES

COURSE NUMBER MACM 204-2

COURSE TITLE

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

Computing with Calculus

AND

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

Computing with Calculus

CREDITS

Indicate number of credits for: Lecture 1 Seminar ____ Tutorial ____ Lab 1

COURSE DESCRIPTION (FOR CALENDAR). 3-4 LINES MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.

Development of computer models that analyze and illustrate applications of multi-variable calculus. Topics include: 3D visualization of curves and surfaces, disease spread models, multi-dimensional optimization and probability models.

PREREQUISITE

One of CMPT 125, 126 or 128. Students in excess of 75 units may not take MACM 204 for further credit. MATH 251 (can be taken as corequisite).

COREQUISITE

SPECIAL INSTRUCTIONS

That is, 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 prerequisiite.

COURSES(S) TO BE DELETED IF THIS COURSE IS APPROVED
NOTE: APPROPRIATE DOCUMENT FOR DELETION MUST BE SUBMITTED TO SCUS

NONE (will be offered in place of MACM 202-4 for two years)

RATIONALE FOR INTRODUCTION OF THIS COURSE

Replaces half of MACM 202-4 computing requirement. Computer applications are more closely integrated with the scheduled syllabus of multi-variable calculus (Math 251).

SCHEDULING AND ENROLLMENT INFORMATION

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

Fall 2010 and every Fall thereafter

(NOTE: There is a two-term wait for implementation of any new course.)

Indicate if there is a waiver required: ☐ YES ☑ NO Will this be a required or elective course in the curriculum? ☑ Required ☐ Elective

What is the probable enrollment when offered? Estimate 60

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

Williams, Monagan, Muraki and others

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO
(If yes, attach mandatory supplementary fee approval form.)

RESOURCE IMPLICATIONS

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.

Campus where course will be taught Burnaby

Library report status (see e-mail attached)

Provide details on how existing instructional resources will be redistributed to accommodate this new course. For example, will another course be eliminated or will the frequency of offering of other courses be reduced; are there changes in pedagogical style or class sizes that allow for this additional course offering?

MACM 204-2 (and MACM 203-2) will be offered in place of MACM 202-4.

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

Lab hour for each section requires use of computer lab.

Articulation agreement reviewed? ☐ YES ☐ NO ☐ Not applicable

OTHER IMPLICATIONS

SFU

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL

1 OF 3 PAGES

COURSE NUMBER MATH 294-2

COURSE TITLE

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

Computational Studies in Mathematics

AND

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

Computational Studies in Math

CREDITS

Indicate number of credits for: Lecture _____ Seminar 2 Tutorial _____ Lab _____

COURSE DESCRIPTION (FOR CALENDAR). 3-4 LINES MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.

Independent study of computational models in a specialized area of mathematics. Course plans, made in consultation with a supervising instructor, should cover a broad computational perspective, and involve at least three distinct modelling or computational approaches.

PREREQUISITE

One of MATH 232 or 240; and MATH 251. Written permission of the department undergraduate studies committee.

COREQUISITE

SPECIAL INSTRUCTIONS

That is, 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 prerequisiite.

COURSES(S) TO BE DELETED IF THIS COURSE IS APPROVED
NOTE: APPROPRIATE DOCUMENT FOR DELETION MUST BE SUBMITTED TO SCUS

NONE

RATIONALE FOR INTRODUCTION OF THIS COURSE

Can be used by advanced Math majors to satisfy 2-credits towards the previous computing (MACM 202-4) requirement.

SCHEDULING AND ENROLLMENT INFORMATION

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

Available Fall 2011.

(NOTE: There is a two-term wait for implementation of any new course.)

Indicate if there is a waiver required: ☐ YES ☑ NO Will this be a required or elective course in the curriculum? ☑ Required ☐ Elective

What is the probable enrollment when offered? Estimate 60

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

Williams, Monagan, Muraki and others

Are there any proposed student fees associated with this course other than tuition fees? ☐ YES ☑ NO
(If yes, attach mandatory supplementary fee approval form.)

RESOURCE IMPLICATIONS

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.

Campus where course will be taught Burnaby

Library report status (see e-mail attached)

Provide details on how existing instructional resources will be redistributed to accommodate this new course. For example, will another course be eliminated or will the frequency of offering of other courses be reduced; are there changes in pedagogical style or class sizes that allow for this additional course offering?

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

Articulation agreement reviewed? ☐ YES ☐ NO ☐ Not applicable

OTHER IMPLICATIONS

SFU

SCUS 10-05f

MEMO

Department of
Molecular Biology &
Biochemistry

8888 University Drive
Burnaby BC V5A 1S6

T: 778.782.5630
F: 778-782-5583

www.sfu.ca/mbb

ATTENTION **Rolf Mathewes** TEL

FROM **Ingrid Northwood; undergrad prog. coordinator-MBB**

RE **New Course Proposal and Course Title Changes**

DATE November 19, 2009

TIME

New Course Proposal: A new course MBB 242- Introductory Genomics, is being proposed. A Notice of Intent for a new Genomics B.Sc. program has been approved by SCUS. MBB 242 corresponds to the introductory course in this program and would be a required course for all students in the Genomics Program, though other students with the appropriate prerequisites may choose to take it as an elective. When the Genomics B.Sc. program becomes functional it is anticipated that MBB 242 may be replaced by a GENO course.

Course Change Forms: Thirteen course change forms are being submitted for 400 level MBB courses. These are primarily "housekeeping" changes; getting rid of old terminology (anything Bich and the inclusion of Bisc 331 which no longer exists), a few (minor) changes in pre-requisite courses, one title change and one condensed course description to conform to the 50 to 60 word limit.

MBB 402: old terminology deletion
MBB 421: old terminology deletion
MBB 422: old terminology deletion
MBB 423: old terminology deletion and pre-requisite change
MBB 430: old terminology deletion
MBB 435: old terminology deletion
MBB 437: old terminology deletion, shortened course description, title change
MBB 436: old terminology deletion and pre-requisite change
MBB 438: old terminology deletion
MBB 441: old terminology deletion
MBB 442: old terminology deletion and pre-requisite change
MBB 443: old terminology deletion
MBB 444: old terminology deletion

29.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL
1 OF 3 PAGES

COURSE NUMBER MBB 242 - 3

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

Introductory Genomics

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

Introductory Genomics

CREDITS

Indicate number of credits for: Lecture 3hrs Seminar Tutorial Lab 1hr

COURSE DESCRIPTION (FOR CALENDAR). 3-4 LINES (50-60 WORDS) MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.

A broad introductory survey of the genome sciences including genome organization, whole genome sequencing, genomic variation in health and disease, comparative genomics, transcriptomes and proteomes and some applications of genomics. Workshops will introduce bioinformatic approaches to the use of genomic databases.

PREREQUISITE BISC 101 with a grade of B- or higher
BISC 102 with a grade of B- or higher
MBB 222 with a grade of B- or higher
Or permission of the department

COREQUISITE none

SPECIAL INSTRUCTIONS
That is, 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. NO

COURSES(S) TO BE DELETED IF THIS COURSE IS APPROVED
NOTE: APPROPRIATE DOCUMENT FOR DELETION MUST BE SUBMITTED TO SCUS

None

RATIONALE FOR INTRODUCTION OF THIS COURSE

A Notice of Intent for a new Genomics B.Sc. program has been approved by SCUS. MBB 242 corresponds to the introductory course in this program and would be a required course for all students in the Genomics Program, though other students with the appropriate prerequisites may choose to take it as an elective. The initial offering will be done on a trial basis, to fine tune the content and workshop exercises. When the Genomics B.Sc. program becomes functional it is anticipated that MBB 242 will be replaced by a GENO course.

SCHEDULING AND ENROLLMENT INFORMATION

Indicate effective **term and year** course would first be offered and planned **frequency** of offering thereafter: **Summer (1104)**

Anticipated frequency thereafter: once per year in the Spring semester.

(NOTE: There is a two-term wait for implementation of any new course.)

Indicate if there is a waiver required: __X__ YES _____NO

Will this be a required or elective course in the curriculum? **Required in the anticipated Genomics B.Sc. program**

What is the probable enrollment when offered? **Estimate 25-50**

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

The course will initially be taught by Michael Smith, a Professor emeritus who has been hired by the Dean of Science to develop and teach the course in summer of 2010. Other faculty with the expertise to teach this course include Drs. Dave Baille, Fiona Brinkman, Jack Chen, Sharon Gorski , Robert Holt, Steven Jones, and Frederic Pio.

Are there any proposed student fees associated with this course other than tuition fees? _____YES ___X___NO
(If yes, attach mandatory supplementary fee approval form.)

RESOURCE IMPLICATIONS

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.

Campus where course will be taught **Burnaby**

Library report status **Approved by Library – please see attached memo**

Provide details on how existing instructional resources will be redistributed to accommodate this new course. For example, will another course be eliminated or will the frequency of offering of other courses be reduced; are there changes in pedagogical style or class sizes that allow for this additional course offering?

No courses will be eliminated. MBB has three new faculty members with joint appointments in the Genome Sciences Center who will contribute to teaching in the proposed Genomics B.Sc. program. Even if that program is not created, we anticipate that this course will be very appealing to many MBB and Bioscience majors and possibly some Biomedical Physiology and Kinesiology and Health Science majors.

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc: **none**

The lab/workshops will be operated in the MBB computer teaching lab using existing hardware and software.

Articulation agreement reviewed? ____YES _____NO __X_____ Not applicable

OTHER IMPLICATIONS NONE

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	**TO**
Course Number MBB 402	Course Number MBB 402
Credit Hour 3	Credit Hour 3

TITLE

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

Molecular and Developmental Genetics	Molecular and Developmental Genetics

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

Molecular/Develop.Genetics	Molecular/Develop.Genetics

DESCRIPTION

Selected aspects of developmental biology with an emphasis on genetic and molecular analyses in model systems such as Drosophilia, C. elegans and mice. The focus will be on signal transduction pathways and their regulation of developmental processes.	Selected aspects of developmental biology with an emphasis on genetic and molecular analyses in model systems such as Drosophilia, C. elegans and mice. The focus will be on signal transduction pathways and their regulation of developmental processes.

BISC 333 and MBB 331 (or BISC 331). Students with credit for BISC 402 may not take this course for credit.	**BISC 333 and MBB 331**

RATONALE

The older terminology is being removed because it is no longer relevant.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
Nov 19, 2009		
Date	Date	Date

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION
OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	TO
Course Number MBB 421	Course Number MBB 421
Credit Hour 3	Credit Hour 3

TITLE

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

Nucleic Acids	Nucleic Acids

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

Nucleic Acids	Nucleic Acids

DESCRIPTION

Recent literature is examined for insights into the structure and properties of DNA and RNA, drawing on a variety of biochemical, chemical and molecular biological perspectives.	Recent literature is examined for insights into the structure and properties of DNA and RNA, drawing on a variety of biochemical, chemical and molecular biological perspectives.

PREREQUISITE

MBB 331 (or BISC 331). Students with credit for BICH 421 may not take MBB 421 for further credit..	**MBB 331**

RATONALE

The older terminology is being removed because it is no longer relevant.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
NOV 19, 2009		
Date	Date	Date

SFU

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	TO
Course Number MBB 422	Course Number MBB 422
Credit Hour 3	Credit Hour 3

TITLE

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

Biomembranes	Biomembranes

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

Biomembranes	Biomembranes

DESCRIPTION

A review of recent research on the structure, dynamics, function and biosynthesis of membranes, membrane lipids and proteins.	A review of recent research on the structure, dynamics, function and biosynthesis of membranes, membrane lipids and proteins.

PREREQUISITE

MBB 322 (or BICH 321 and 322) and either MBB 323 or CHEM 360. Students with credit for BICH 422 may not take MBB 422 for further credit.	**MBB 322 and either MBB 323 or CHEM 360**

RATONALE

The older terminology is being removed because it is no longer relevant.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
NOV 19, 2009		
Date	Date	Date

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	**TO**
Course Number MBB 423	Course Number MBB 423
Credit Hour 3	Credit Hour 3

TITLE

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

Protein Structure and Function	Protein Structure and Function

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

Protein Structure	Protein Structure

DESCRIPTION	DESCRIPTION
Recent research in transition state theory; specificity in enzyme catalyzed reactions, the use of recombinant DNA techniques to describe and modify enzyme catalysis, the function of enzymes in organic solvents, and the development of new catalytic activities through monoclonal antibody techniques.	Recent research in transition state theory; specificity in enzyme catalyzed reactions, the use of recombinant DNA techniques to describe and modify enzyme catalysis, the function of enzymes in organic solvents, and the development of new catalytic activities through monoclonal antibody techniques.

PREREQUISITE	**PREREQUISITE**
Prerequisite: MBB 331 (or BISC 331) and either MBB 321 (or BICH 321) or MBB 322 (or BICH 322). Students with credit for BICH 423 may not take MBB 423 for further credit.	**Two of: MBB 321, MBB 322, MBB 323 , MBB 331**

RATONALE

The prerequisite options are being expanded to allow more students access to the course and the older terminology is being removed because it is no longer relevant.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
Nov 19, 2009		
Date	Date	Date

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	TO
Course Number MBB 430	Course Number MBB 430
Credit Hour 3	Credit Hour 3

TITLE

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

Mechanisms of Secretory Transport	Mechanisms of Secretory Transport

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

Mechanisms Secretory Transport	Mechanisms Secretory Transport

DESCRIPTION	DESCRIPTION
Analysis of mechanisms of protein, lipid, and nucleic acid delivery and transport within cells; processes of protein targeting, exocytosis, and endocytosis; molecular mechanisms of vesicle transport and membrane fusion; role in signal transduction and disease.	Analysis of mechanisms of protein, lipid, and nucleic acid delivery and transport within cells; processes of protein targeting, exocytosis, and endocytosis; molecular mechanisms of vesicle transport and membrane fusion; role in signal transduction and disease.

PREREQUISITE	**PREREQUISITE**
MBB 322 and BISC 331/MBB 331 or permission of the instructor.	**MBB 322 and MBB 331**

RATONALE

The older terminology is being removed because it is no longer relevant.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
Nov 19, 2009		
Date	Date	Date

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	TO
Course Number MBB 435	Course Number MBB 435
Credit Hour 3	Credit Hour 3

TITLE

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

Genome Biology	Genome Biology

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

Genome Biology	Genome Biology

DESCRIPTION

The analysis of entire genomes of organisms has only been possible since 1995. This new area of study will be examined in detail with emphasis on current research.	The analysis of entire genomes of organisms has only been possible since 1995. This new area of study will be examined in detail with emphasis on current research.

PREREQUISITE

MBB 331 (or BISC 331). Students with credit for BICH 435 may not take MBB 435 for further credit.	**MBB 331**

RATONALE

The older terminology is being removed because it is no longer relevant.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
NOV 19, 2009		
Date	Date	Date

37.

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	**TO**
Course Number MBB 436	Course Number MBB 436
Credit Hour 3	Credit Hour 3

TITLE

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

Gene Expression	Gene Expression

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

Gene Expression	Gene Expression

DESCRIPTION	DESCRIPTION
Lectures and student presentations will cover the wide range of ways in which organisms (primarily eukaryotes) regulate gene expression along the pathway from DNA to protein.	Lectures and student presentations will cover the wide range of ways in which organisms (primarily eukaryotes) regulate gene expression along the pathway from DNA to protein.

PREREQUISITE	**PREREQUISITE**
Prerequisite: MBB 321, 322, and MBB 331 or BISC 331, or permission of instructor.	**MBB 331**

RATONALE

The older terminology is being removed because it is no longer relevant and two courses that were formerly listed as pre-reqs have been eliminated because they are not necessary.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
Nov-19, 2009		
Date	Date	Date

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	TO
Course Number MBB 441	Course Number MBB 441
Credit Hour 3	Credit Hour 3

TITLE

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

Bioinformatics	Bioinformatics

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

Bioinformatics	Bioinformatics

DESCRIPTION

Lectures and hands-on instruction at the computer in the use of, and theory behind, bioinformatic software and algorithms for the analysis of macromolecular data.	Lectures and hands-on instruction at the computer in the use of, and theory behind, bioinformatic software and algorithms for the analysis of macromolecular data.

PREREQUISITE

MBB 331 (or BISC 331), and an introductory computer science course (e.g. CMPT 110 or 120), or equivalent.	**MBB 331 and an introductory computer science course (e.g. CMPT 110 or 120), or equivalent.**

RATONALE

The older terminology is being removed because it is no longer relevant.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
Nov 19, 2009		
Date	Date	Date

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	TO
Course Number MBB 442	Course Number MBB 442
Credit Hour 3	Credit Hour 3

TITLE

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

Proteomics	Proteomics

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

Proteomics	Proteomics

DESCRIPTION

Proteomics concerns the analysis of the entire complement of proteins expressed by an organism. This course will consider protein sequence alignment, sequence database scanning, classification of protein structures, prediction of protein structure and function, and evolution of protein function.	Proteomics concerns the analysis of the entire complement of proteins expressed by an organism. This course will consider protein sequence alignment, sequence database scanning, classification of protein structures, prediction of protein structure and function, and evolution of protein function.

PREREQUISITE

MBB 321 (or BICH 321) and MBB 322 (or BICH 322); one introductory computer course (e.g. CMPT 102 or 120).	**MBB 321 and MBB 322; an introductory computer science course (e.g. CMPT 110 or 120), or equivalent.**

RATONALE

The older terminology is being removed because it is no longer relevant and the comp course numbering has been updated.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
Nov 19, 2009		
Date	Date	Date

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	TO
Course Number MBB 443	Course Number MBB 443
Credit Hour 3	Credit Hour 3

TITLE

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

Protein Biogenesis and Degradation	Protein Biogenesis and Degradation

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

Protein Biogenesis	Protein Biogenesis

DESCRIPTION

A consideration of protein biogenesis (folding, assembly, and targeting to cellular compartments), modification, and degradation, and their roles in protein and cellular function	A consideration of protein biogenesis (folding, assembly, and targeting to cellular compartments), modification, and degradation, and their roles in protein and cellular function

PREREQUISITE

MBB 321 (or BICH 321) and MBB 322 (or BICH 322); or permission of the instructor.	**MBB 321 and MBB 322**

RATONALE

The older terminology is being removed because it is no longer relevant.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
Nov 19, 2009		
Date	Date	Date

SFU SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	TO
Course Number MBB 444	Course Number MBB 444
Credit Hour 3	Credit Hour 3

TITLE

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

Developmental Neurobiology	Developmental Neurobiology

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

Developmental Neurobiology	Developmental Neurobiology

DESCRIPTION

Examination of recent literature on neuronal growth cones and axonal guidance. Cell cultural, biochemical, and molecular genetic approaches will be emphasized in assessing guidance cues.	Examination of recent literature on neuronal growth cones and axonal guidance. Cell cultural, biochemical, and molecular genetic approaches will be emphasized in assessing guidance cues.

PREREQUISITE

BISC 331/MBB 331 and BISC 333, or permission of the instructor.	**MBB 331 and Bisc 333**

RATONALE

The older terminology is being removed because it is no longer relevant.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
Nov 19, 2009		
Date	Date	Date

42.

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SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION
OCTOBER 2007

Existing Course, Changes Recommended
Please check appropriate revision(s):

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

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

FROM	**TO**
Course Number MBB 437	Course Number MBB 437
Credit Hour 3	Credit Hour 3

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

Selected Topics in Signal Transduction — **Signal Transduction**

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

Sel.Topics/Signal Transduction — **Signal Transduction**

DESCRIPTION

Signal transduction, the conversion of an extracellular signal into a cellular response, is presently one of the most intensively studied aspects of biology. Signaling pathways control a wide range of cellular processes and the characterization of these pathways is having a major impact on cell biology, developmental biology, biotechnology and medicine. In this course, we shall be examining the current literature in this rapidly developing field. We will look at how a combination of biochemistry, cell biology and genetics is being used to investigate the diverse mechanisms used in cell signaling, and examine how the various approaches to studying signal transduction complement each other. Classes will be in the form of lectures and student presentations.

DESCRIPTION

An investigation of how biochemistry, cell biology and genetics is used to study the diverse mechanisms used in cell signaling along with an exploration of how the various approaches to studying signal transduction complement each other.

PREREQUISITE

MBB 321, MBB 322 and MBB 331 or BISC 331 or permission of the instructor.

PREREQUISITE

MBB 321, MBB 322 and MBB 331

RATONALE

The older terminology is being removed because it is no longer relevant.
A shorter title has been given to the course and the description condensed.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

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SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE CHANGE/DELETION

OCTOBER 2007

Existing Course, Changes Recommended

Please check appropriate revision(s):

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

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

FROM	TO
Course Number MBB 438	Course Number MBB 438
Credit Hour 3	Credit Hour 3

TITLE

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

Human Molecular Genetics	Human Molecular Genetics

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

Human Molecular Gen.	Human Molecular Gen.

DESCRIPTION	DESCRIPTION
The course will describe recent advances in human molecular genetics. Topics will include genome analysis, gene therapy, genetic testing, and studies of genetic disorders.	**Recent advances in human molecular genetics including genome analysis, gene therapy, genetic testing, and studies of genetic disorders.**

PREREQUISITE	PREREQUISITE
MBB 331 (or BISC 331).	**MBB 331**

RATONALE

The older terminology is being removed because it is no longer relevant.
The description has been changed to meet current standards for calendar descriptions.

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 **NO**

Effective term and year **Fall, 2010 (1107)**

Approvals:

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
Date: Nov. 19, 2009	Date	Date

SCUS 10-05g

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SENATE COMMITTEE ON
UNDERGRADUATE STUDIES

COURSE CHANGE / DELETION
OCTOBER 2007

EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

Course number ☐ Credit Title ☐ Description ☐ Prerequisite ☑ Course deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

FROM	**TO**
Course Number PHYS 395	Course Number
Credit Hour 3	Credit Hour

TITLE

[1] Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

Computational Physics	

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

DESCRIPTION	DESCRIPTION

PREREQUISITE	PREREQUISITE
MATH 310, PHYS 211, CMPT 101 or 102. Recommended PHYS 344 (or PHYS 244) or equivalent.	MATH 310, PHYS 211, CMPT 101 or 102. Recommended PHYS 344 or equivalent.

RATIONALE

PHYS 244 is no longer offered. It last appeared in the 1999/2000 calendar.

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**.

Effective term and year 2010/11

SFU

SENATE COMMITTEE ON
UNDERGRADUATE STUDIES

COURSE CHANGE / DELETION
OCTOBER 2007

EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

Course number ☐ Credit Title ☐ Description ☐ Prerequisite ☑ Course deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

FROM

Course Number PHYS 455

Credit Hour 3

TO

Course Number _____

Credit Hour _____

TITLE

[1] Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

Modern Optics

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

DESCRIPTION

DESCRIPTION

PREREQUISITE

PHYS 321 or 221; PHYS 385

PREREQUISITE

PHYS 321 or 221. Corequisite PHYS 385

RATIONALE

Topics (such as quantum optics) that make use of material taught in PHYS 385 (Quantum Mechanics I) are only introduced late in the course. Allowing students to take PHYS 385 as a corequisite instead of a prerequisite to PHYS 455 will provide more flexibility and reflects current practice (i.e. exceptions are granted on a regular basis).

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**.

Effective term and year 2010/11

SFU

SENATE COMMITTEE ON
UNDERGRADUATE STUDIES

COURSE CHANGE / DELETION
OCTOBER 2007

EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

Course number ☐ Credit Title ☐ Description ☐ Prerequisite ☑ Course deletion ☐

Indicate number of hours for: Lecture_____ Seminar _____ Tutorial _____ Lab _____

FROM	**TO**
Course Number PHYS 347	Course Number
Credit Hour 3	Credit Hour

TITLE

[1] Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

Introduction to Biological Physics

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

DESCRIPTION	DESCRIPTION

PREREQUISITE	PREREQUISITE
Completion of 45 units including BISC 101, CHEM 122, MATH 152 (or 155), PHYS 121 (or 102, or 126, or 141).	Completion of 45 units including CHEM 122, MATH 152 (or 155), PHYS 121 (or 102, or 126, or 141). Recommended BISC 101.

RATIONALE

The motivation for this change is to encourage more physics students to take PHYS 347. The majority of physics students do not normally take biology courses.

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

Effective term and year 2010/11