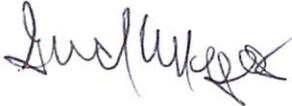




OFFICE OF THE ASSOCIATE VICE-PRESIDENT, ACADEMIC AND
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MEMORANDUM

ATTENTION	Senate	DATE	October 12, 2012
FROM	Gordon Myers, Chair Senate Committee on Undergraduate Studies	PAGES	1/1
RE:	Faculty of Science (SCUS 12-41)		

For information:

Acting under delegated authority at its meeting of October 11, 2012, SCUS approved the following curriculum revisions effective Summer 2013:

1. Department of Biomedical Physiology and Kinesiology

- (i) Lower Division requirements changes for the Biomedical Physiology Minor Program
- (ii) Prerequisite change for KIN 415
- (iii) Upper Division requirement changes for the Behavioural Neuroscience Major and Honors Programs
- (iv) Pre-requisite change for KIN 208
- (v) Requirement changes for the Active Health Concentration of KIN Major and Honours Programs
- (vi) Post-Secondary Transfer and Internal Transfer Applicants Mathematics admission changes
- (vii) Upper Division Requirement changes to the Biomedical Physiology Major and Honours Program
- (viii) Requirement changes to the Active Health Concentration of the KIN Major and Honors Programs.

Senators wishing to consult a more detailed report of curriculum revisions may do so by going to Docushare: <https://docushare.sfu.ca/dsweb/View/Collection-12682>
If you are unable to access the information, please call [778-782-3168](tel:778-782-3168) or email shelley_gair@sfu.ca.

BPK Motions for FSUCC meeting May 2012 – Ryan Dill

The following changes to the programs in BPK reflect recommendations we received in our most recent external review that are in addition to our own critique.

1.

BPK MOTION : Add Kin 142 Introduction to Kinesiology to the list of required courses for the Biomedical Physiology (BIF) Minor.

Rationale: This motion corrects a prerequisite omission error. Kin 325/324 is a required course in our minor program. The course Kin 142 is a prerequisite to Kin 325/324, and these courses current instructor believe the content and learning outcomes of Kin 142 remain essential.

FROM :

**Biomedical Physiology Minor Program
Program Requirements**

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
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
KIN 205-3 Introduction to Human Physiology
MBB 222-3 Molecular Biology and Biochemistry
MBB 231-3 Cellular Biology and Biochemistry

TO :

**Biomedical Physiology Minor Program
Program Requirements**

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
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
KIN 142 -3 Introduction to Kinesiology
KIN 205-3 Introduction to Human Physiology
MBB 222-3 Molecular Biology and Biochemistry
MBB 231-3 Cellular Biology and Biochemistry

2.

BPK MOTION : Remove KIN 326 as a prerequisite for KIN 415

KIN 415-3 Neural Control of Movement

Rationale:

KIN 326 - titled Functional Anatomy is no longer required as a prerequisite as all relevant anatomy is now covered within KIN 415. KIN 326 – Functional Anatomy has since emerged as a barrier for students interested in enrolling in KIN 415 earlier in their program.

FROM :

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.**

TO:

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.



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 **TO**
Course Subject/Number KIN 415 Course Subject/Number KIN 415
Credits 3 Credits 3

TITLE

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

FROM: **TO:**
Neural Control of Movement

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

FROM: **TO:**

DESCRIPTION **DESCRIPTION**
FROM: **TO:**

PREREQUISITE **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: **TO:**
KIN 306 or BISC 305 and KIN 326. KIN 306 or BISC 305.

LEARNING OUTCOMES

RATIONALE

KIN 326 – Functional Anatomy is no longer required as a prerequisite as all relevant anatomy is now covered within KIN 415. KIN 326 – Functional Anatomy has become a barrier for students interested in enrolling in KIN 415 earlier in their program.

Effective term and year Fall 2012

4.

BPK MOTION : Add one of Kin 496 – Directed Studies I or Kin 498 – Directed Studies II, to upper division required options for the Behavioural Neuroscience Major and Honors programs

Rationale: The directed studies courses being added as approved optional courses are excellent opportunities for our Behavioral Neuroscience students to obtain relevant experiential learning (eg. inquiry).

FROM :

and nine additional units selected from the following.

KIN 336 Histology (3)

KIN 407 Human Physiology Laboratory (3)

KIN 415 Neural Control of Movement (3)

KIN 446 Neurological Disorders (3)

KIN 448 Rehabilitation of Movement Control (3)

KIN 461 Physiological Aspects of Aging (3)

TO :

and nine additional units selected from the following.

KIN 336 Histology (3)

KIN 407 Human Physiology Laboratory (3)

KIN 415 Neural Control of Movement (3)

KIN 446 Neurological Disorders (3)

KIN 448 Rehabilitation of Movement Control (3)

KIN 461 Physiological Aspects of Aging (3)

One of KIN 496 or KIN 498 may be used towards these nine units.

KIN 496 Directed Study I (3)

KIN 498 Directed Study II (3)

5.

BPK MOTION : Change CHEM 180 from a prerequisite to a co-requisite for KIN 208

Rationale:

The School of Engineering has made several changes to their Biomedical Engineering Program. One of the changes is to allow students to opt into the BMED ENG stream in the fall of their third year, which is at the same program-time point as other engineering streams. The BMED ENG specific courses,

therefore, need to be offered later in their program. To facilitate this, CHEM 180 is being recommended to be changed from a prerequisite to a co-requisite for KIN 208. Both courses may now be taken in the fall of the student's third year. The primary instructor for KIN 208 (J. Wakeling) believes this change will not be detrimental to students.

FROM :

KIN 208-3 Introduction to Physiological Systems

An introduction to anatomy and physiological function of the major human systems, from a biomedical engineering perspective. Normally only available to students in the Biomedical Engineering Program. KIN 208 may be used as a substitute for KIN 105 by students in the Kinesiology Minor and Certificate programs. Kinesiology Major and Honors students may not receive credit for KIN 208. No student may take both KIN 105 and KIN 208 for credit, or both KIN 205 and KIN 208 for credit. **Prerequisite: CHEM 180**

TO :

KIN 208-3 Introduction to Physiological Systems

An introduction to anatomy and physiological function of the major human systems, from a biomedical engineering perspective. Normally only available to students in the Biomedical Engineering Program. KIN 208 may be used as a substitute for KIN 105 by students in the Kinesiology Minor and Certificate programs. Kinesiology Major and Honors students may not receive credit for KIN 208. No student may take both KIN 105 and KIN 208 for credit, or both KIN 205 and KIN 208 for credit. **Co-requisite: CHEM 180**

6.

BPK MOTION : Add the following ergonomics courses to the required options for the Active Health Concentration of KIN Major and Honors programs.

KIN 381 Psychology of Work (3)
KIN 382 Workplace Health and Safety (3)

RATIONALE :

- Allowing our other KIN majors to count these upper division courses towards their degree will expose more students to this area of potential employment

FROM :

Active Health and Rehabilitation Concentration

This program option requires a total of 45 upper division units, which is composed of the 19 upper division core courses (see above) and the following additional requirements. Students who choose this concentration will complete an additional 26 units as specified below, including all of

KIN 303 Kinanthropometry (3)

KIN 310 Exercise/Work Physiology (3)

KIN 343 Active Health: Assessment and Programming (3)

and four of

KIN 308 Experiments and Models in Systems Physiology (3)

KIN 311 Applied Human Nutrition (3)

KIN 312 Nutrition for Fitness and Sport (3)

KIN 375 Human Growth and Development (3)

KIN 402 Mechanical Behavior of Biological Tissues (3)

KIN 412 Molecular and Cellular Cardiology (3)

KIN 415 Neural Control of Movement (3)

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

KIN 426 Neuromuscular Anatomy (3)

KIN 431 Integrative Cancer Biology (3)

KIN 444 Cardiac Disease: Pathophysiology and Assessment (3)

KIN 445 Advanced Cardiac Rehabilitation (3)

KIN 446 Neurological Disorders (3)

KIN 448 Rehabilitation of Movement Control (3)

KIN 461 Physiological Aspects of Aging (3)

KIN 481 Musculoskeletal Disorders (3)

KIN 496 Directed Study I (3)

KIN 498 Directed Study II* (3)

and one additional upper division kinesiology course, excluding KIN 325, 342, 497, 499

and an additional two units of upper division units chosen from any discipline within the University

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

Students admitted in September 2006 or later are also required to complete the University's writing, quantitative and breadth (WQB) requirements, which includes the requirement of completing three units of writing-intensive credit at

the upper division. The W component may be included within the 45 upper division unit total for this general program.

TO :

Active Health and Rehabilitation Concentration

This program option requires a total of 45 upper division units, which is composed of the 19 upper division core courses (see above) and the following additional requirements. Students who choose this concentration will complete an additional 26 units as specified below, including all of

KIN 303 Kinanthropometry (3)

KIN 310 Exercise/Work Physiology (3)

KIN 343 Active Health: Assessment and Programming (3)

and four of

KIN 308 Experiments and Models in Systems Physiology (3)

KIN 311 Applied Human Nutrition (3)

KIN 312 Nutrition for Fitness and Sport (3)

KIN 375 Human Growth and Development (3)

KIN 381 Psychology of Work (3)

KIN 382 Workplace Health and Safety (3)

KIN 402 Mechanical Behavior of Biological Tissues (3)

KIN 412 Molecular and Cellular Cardiology (3)

KIN 415 Neural Control of Movement (3)

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

KIN 426 Neuromuscular Anatomy (3)

KIN 431 Integrative Cancer Biology (3)

KIN 444 Cardiac Disease: Pathophysiology and Assessment (3)

KIN 445 Advanced Cardiac Rehabilitation (3)

KIN 446 Neurological Disorders (3)

KIN 448 Rehabilitation of Movement Control (3)

KIN 461 Physiological Aspects of Aging (3)

KIN 481 Musculoskeletal Disorders (3)

KIN 496 Directed Study I (3)

KIN 498 Directed Study II*(3)

and one additional upper division kinesiology course, excluding KIN 325, 342, 497, 499

and an additional two units of upper division units chosen from any discipline within the University

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

Students admitted in September 2006 or later are also required to complete the University's writing, quantitative and breadth (WQB) requirements, which includes the requirement of completing three units of writing-intensive credit at



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		TO
Course Subject/Number	<u>KIN 208</u>	Course Subject/Number <u>KIN 208</u>
Credits	<u>3</u>	Credits <u>3</u>

TITLE

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

FROM:	TO:
	Introduction to Physiological Systems

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

FROM:	TO:
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DESCRIPTION

FROM:	TO:
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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:	TO:
CHEM 180	corequisite CHEM 180

LEARNING OUTCOMES

RATIONALE

The School of Engineering is making several changes to the Biomedical Engineering Program. One of the changes is to allow students to select the BMED ENG stream in the fall of their third year, at the same time point as other engineering streams are selected. The BMED ENG specific courses, therefore, need to be offered later in the program. To facilitate this, CHEM 180 needs to be taken as a co-requisite for KIN 208. Both courses will now be taken in the fall of third year. The primary instructor for KIN 208 (J. Wakeling) believes this change will not be detrimental to students.

Effective term and year Fall 2012

the upper division. The W component may be included within the 45 upper division unit total for this general program.

7.

BPK MOTION : Add MATH 150 Calculus I with Review (4) as an option for MATH 151 Calculus I (3) or MATH 154 Calculus I for the Biological Sciences (3) in the Behavioural Neuroscience Major and Honors programs. *POST SECONDARY TRANSFER AND INTERNAL APPLICANTS MATHEMATICS ADMISSION CHANGES*

Rationale : it is currently an option in all other programs.

BPK MOTION 8 resubmission using current calendar

8.

BPK MOTION : Make the following changes to the BIF major and honors program requirements for one upper division course in MBB or BISC

**A. Remove BISC 430-3 Microbe-Plant Interactions
NO LONGER NEEDED ALREADY REMOVED FROM CALENDAR**

B. Add the following sentence to indicate that additional pre-requisites are required for the indicated courses.

* require additional prerequisites outside of program requirements.

C. Add the following courses to the list of optional courses

BISC 307-3 Animal Physiology Laboratory

BISC 307W-3 Animal Physiology Laboratory

BISC 316-4 Vertebrate Biology

MBB 309W-4 Biochemistry Laboratory

Rationale: These courses were selected based on the relationship between the topic and the content of the Biomedical Physiology major and honors. Some of these courses require pre-requisites that are not part of the Biomedical Physiology major and honors as indicated.

FROM:

Upper Division Requirements

Students complete 46-47 upper division units in the following courses, each of which must be completed with a grade of C- or higher.

Students complete all of

- KIN 304W-3 Inquiry and Measurement in Kinesiology *
- KIN 305-3 Human Physiology I
- KIN 306-3 Human Physiology II (Principles of Physiological Regulation)
- KIN 326-4 Functional Anatomy
- KIN 407-3 Human Physiology Laboratory
- MBB 321-3 Intermediary Metabolism

and one of

- BISC 303-4 Microbiology
- BISC 329-4 Introduction to Experimental Techniques
- BISC 333-3 Developmental Biology
- BISC 357-3 Gene Cloning
- BISC 403-3 Current Topics in Cell Biology

- BISC 405-3 Neurobiology
- BISC 431-3 Molecular Biotechnology
- CHEM 360-3 Thermodynamics and Chemical Kinetics
- MBB 308-3 Molecular Biology Laboratory
- MBB 309-4 Biochemistry Laboratory
- MBB 322-3 Molecular Physiology
- MBB 323-3 Introduction to Physical Biochemistry
- MBB 331-3 Molecular Biology

TO:

Upper Division Requirements

Students complete 46-47 upper division units in the following courses, each of which must be completed with a grade of C- or higher.

Students complete all of

- KIN 304W-3 Inquiry and Measurement in Kinesiology *
- KIN 305-3 Human Physiology I
- KIN 306-3 Human Physiology II (Principles of Physiological Regulation)
- KIN 326-4 Functional Anatomy
- KIN 407-3 Human Physiology Laboratory
- MBB 321-3 Intermediary Metabolism

and one of

- BISC 303-4 Microbiology
- **BISC 307-3 Animal Physiology Laboratory**
- **BISC 307W-3 Animal Physiology Laboratory**
- **BISC 316-4 Vertebrate Biology**
- BISC 329-4 Introduction to Experimental Techniques
- **BISC 333-3 Developmental Biology ***
- **BISC 357-3 Gene Cloning ***
- BISC 403-3 Current Topics in Cell Biology
- BISC 405-3 Neurobiology
- BISC 431-3 Molecular Biotechnology
- CHEM 360-3 Thermodynamics and Chemical Kinetics
- **MBB 308-3 Molecular Biology Laboratory ***
- MBB 309-4 Biochemistry Laboratory
- **MBB 309W-4 Biochemistry Laboratory**
- MBB 322-3 Molecular Physiology
- MBB 323-3 Introduction to Physical Biochemistry
- **MBB 331-3 Molecular Biology ***

*** require additional prerequisites outside of program requirements.**

~~BISC 329-4 Introduction to Experimental Techniques
BISC 333-3 Developmental Biology
BISC 357-3 Gene Cloning
BISC 403-3 Current Topics in Cell Biology
BISC 405-3 Neurobiology
BISC 430-3 Microbe-Plant Interactions
MBB 308-3 Molecular Biology Laboratory
MBB 309-4 Biochemistry Laboratory
MBB 322-3 Molecular Physiology
MBB 323-3 Introduction to Physical Biochemistry
MBB 331-3 Molecular Biology~~

TO :

one upper division course from MBB or BISC is required from the following list.

and one of

~~BISC 303-4 Microbiology
BISC 307-3 Animal Physiology Laboratory
BISC 307W-3 Animal Physiology Laboratory
BISC 316-4 Vertebrate Biology
BISC 329-4 Introduction to Experimental Techniques
BISC 333-3 Developmental Biology*
BISC 357-3 Gene Cloning*
BISC 403-3 Current Topics in Cell Biology
BISC 405-3 Neurobiology
MBB 308-3 Molecular Biology Laboratory*
MBB 309-4 Biochemistry Laboratory
MBB 309W-4 Biochemistry Laboratory
MBB 322-3 Molecular Physiology
MBB 323-3 Introduction to Physical Biochemistry
MBB 331-3 Molecular Biology*~~

~~*** require additional prerequisites outside of program requirements.**~~

9.

BPK MOTION: Add Special topics courses 420-3, 421-3, 422-3 and 423-3 to the list of Courses for the Active Health Concentration of the KIN Major and Honors Degrees.

Rationale: When new fourth year specialty courses in the area of research faculty are introduced, they are first run as special topics courses. As we have not run these is several years this omission in the calendar for the Active Health Concentration of the KIN major and Honors Degrees was not noticed. We currently have several proposals for fourth year special topics courses that will be of significant interest to students in these programs.

FROM :
and four of

KIN 311-3 Applied Human Nutrition
KIN 312-3 Nutrition for Fitness and Sport
KIN 375-3 Human Growth and Development
KIN 412-3 Molecular and Cellular Cardiology
KIN 426-3 Neuromuscular Anatomy
KIN 431-3 Environmental Carcinogenesis
KIN 444-3 Cardiac Rehabilitation
KIN 445-3 Advanced Cardiac Rehabilitation
KIN 446-3 Neurobiology of Disease
KIN 448-3 Rehabilitation of Movement Control
KIN 461-3 Physiological Aspects of Aging
KIN 467-3 Human Motor Control
KIN 481-3 Activity-Generated Musculo-Skeletal Disorders
KIN 496-3 Directed Study I*
KIN 498-3 Directed Study II*

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

TO:
and four of

KIN 311-3 Applied Human Nutrition
KIN 312-3 Nutrition for Fitness and Sport
KIN 375-3 Human Growth and Development
KIN 412-3 Molecular and Cellular Cardiology
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 426-3 Neuromuscular Anatomy
KIN 431-3 Environmental Carcinogenesis
KIN 444-3 Cardiac Rehabilitation
KIN 445-3 Advanced Cardiac Rehabilitation
KIN 446-3 Neurobiology of Disease
KIN 448-3 Rehabilitation of Movement Control
KIN 461-3 Physiological Aspects of Aging
KIN 467-3 Human Motor Control

KIN 481-3 Activity-Generated Musculo-Skeletal Disorders
KIN 496-3 Directed Study I*
KIN 498-3 Directed Study II*

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