

SIMON FRASER UNIVERSITY

S.75-176

MEMORANDUM

To..... SENATE.....

From..... THE SENATE COMMITTEE ON UNDERGRADUATE
..... STUDIES

Subject..... PROPOSED CHANGES - DEPARTMENT OF
KINESIOLOGY

Date..... NOVEMBER 10, 1975

That Senate approve, and recommend approval to the Board of Governors, as set forth in Paper S.75-176:

MOTION 1: "That the Mathematics requirements for a Major in Kinesiology, originally (a) be changed to (a) or (b):

(a) MATH 151-3 Calculus I

MATH 152-3 Calculus II or

(b) MATH 154-3 Calculus for the Biological Sciences

MATH 155-3 Calculus II for the Biological Sciences

and that this change be made wherever it appears in the submission."

MOTION 2: "That the Computing Science requirements for a Major in Kinesiology be changed as follows:

Delete CMPT 100-3 (now CMPT 105-3) - Introduction to Computing;

Add CMPT 142-1 - Computing Project - Kinesiology."

MOTION 3: "That there be a change in the wording of the course description and the addition of a recommended pre-requisite for KIN. 100-3 - Introduction to Human Structure and Function to read as follows:

'This course provides an insight into the structure, function and organization of the various systems of the body and how they interact to form a living organism. Material includes: the nervous system; structure and function of muscle; the cardiovascular system; respiration energy metabolism; endocrinology and reproduction.

Recommended: A knowledge of Biology, Chemistry, and Physics to a Grade XI level."

MOTION 4: "That the vector for KIN. 330-3 be changed from 2-0-4 to 2-1-0, with the corresponding word description changing from Lecture/Tutorial/Laboratory to Lecture/Tutorial."

MOTION 5: "That the prerequisite for KIN. 442-3 - Biomedical Systems be changed:

From: CMPT 100-3, MATH 101-3, MATH 152-3,
KIN. 100-3;
To: CMPT 103-3, MATH 152-3 or MATH 155-3,
KIN. 100-3."

MOTION 6: "That the prerequisite for KIN. 480-3 - Human Factors in Working Environments be changed:

From: 'A minimum of 90 semester hours credit with not less than 45 hours credit from courses in at least three of the following: Science, Computing Science, Economics and Commerce, Psychology and Kinesiology.'
To: 'KIN. 100-3, PHYS 101-3, MATH 151-3 or 154-3 and not less than 45 hours credit from Science, Computing Science, Psychology, Economics and Commerce and Kinesiology recommended.'

and that the vector for this course be changed from 2-1-3 to 2-1-0, with the corresponding word description changing from Lecture/Tutorial/Laboratory to Lecture/Tutorial."

MOTION 7: "That a prerequisite be added for KIN. 496-3 - Directed Study, to read:

'Consent of advisor. This is to be obtained before the start of the examination period of the semester prior to the one in which the student plans to register for this course.'"

MOTION 8: "That the prerequisite for KIN. 498-3 - Undergraduate Research be changed from 'Consent of Chairman' to 'Honors standing or consent of chairperson. Approval of the research project is to be obtained before the start of the examination period of the semester prior to the one in which the student plans to register for this course.'"

MOTION 9: "That the requirements for a Minor in Kinesiology be changed to:

'The basic requirements will be (a) KIN. 100-3, (b) 21 hours of additional course work in the Kinesiology Department, of which at least 15 hours must be selected from courses numbered 300 and above. Students using this minor in preparation to teach are urged to select the courses for the minor program in consultation with the Faculty of Education and the Department of Kinesiology.'"

SIMON FRASER UNIVERSITY

S75-176

MEMORANDUM

To SENATE

From SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Subject Calendar Changes - Kinesiology

Date 10th November, 1975

The following nine motions embody those recommendations from the Department of Kinesiology which have been approved by the Undergraduate Studies Committee of the Faculty of Interdisciplinary Studies and by SCUS. In each case the rationale is provided in attachments forwarded from the Department and I have noted only a few additional comments emerging from discussion in SCUS.

MOTION 1

"That the Mathematics requirements for a Major in Kinesiology, originally (a), be changed to (a) or (b):

- (a) MATH 151-3 Calculus I
MATH 152-3 Calculus II or
- (b) MATH 154-3 Calculus for the Biological Sciences
MATH 155-3 Calculus II for the Biological Sciences

and that this change be made wherever it appears in the submission."

Note - The Department expects students to take the calculus courses designed for Biology students, however, it does not wish to prevent students from taking the regular calculus courses as an alternative, particularly when those students wish to take upper levels Chemistry courses for which the regular calculus courses are prerequisites.

MOTION 2

"That the Computing Science requirements for a Major in Kinesiology be changed as follows:

- Delete CMPT 100-3 (now CMPT 105-3) - Introduction to Computing;
- Add CMPT 142-1 - Computing Project - Kinesiology."

Note - It was explained that CMPT 103-3, currently required for a major, provides the computing language background essential to utilizing the computer, and therefore CMPT 100-3 (now 105-3), a general course on computers, was not essential to the major. CMPT 142-1, is a project course designed to provide a student with an opportunity to apply the skills obtained in CMPT 103-3 to an actual Kinesiology-related project.

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MOTION 3

"That there be a change in the wording of the course description and the addition of a recommended pre-requisite for KIN. 100-3 - Introduction to Human Structure and Function to read as follows:

This course provides an insight into the structure, function and organization of the various systems of the body and how they interact to form a living organism. Material includes: the nervous system; structure and function of muscle; the cardiovascular system; respiration energy metabolism; endocrinology and reproduction.

Recommended: A knowledge of Biology, Chemistry, and Physics to a grade XI level."

Note - The course is an introduction to the major and not a general interest course. Some entering students without sufficient grounding in science have been finding it very difficult. The recommendation is intended as an indication to students that a science background, although not required, is highly recommended. (For rationale from the Department see attachment D)

MOTION 4

"That the vector for KIN. 330-3 be changed from 2-0-4 to 2-1-0, with the corresponding word description changing from Lecture/Tutorial/Laboratory to Lecture/Tutorial."

Note -(For rationale from the Department see attachment F.)

MOTION 5

"That the prerequisite for KIN. 442-3 - Biomedical Systems be changed:

From: CMPT 100-3, MATH 101-3, MATH 152-3, KIN. 100-3;
To: CMPT 103-3, MATH 152-3 or MATH 155-3, KIN. 100-3."

Note - These changes result from other requirement changes already approved. Senate approved deletion of MATH 101 as a requirement of Kinesiology majors last year. (For rationale from the Department see attachment I.)

MOTION 6

"That the prerequisite for KIN. 480-3 - Human Factors in Working Environments be changed:

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From: 'A minimum of 90 semester hours credit with not less than 45 hours credit from courses in at least three of the following: Science, Computing Science, Economics and Commerce, Psychology and Kinesiology.
To: KIN. 100-3, PHYS 101-3, MATH 151-3 or 154-3 and not less than 45 hours credit from Science, Computing Science, Psychology, Economics and Commerce and Kinesiology recommended.'

and that the vector for this course be changed from 2-1-3 to 2-1-0, with the corresponding word description changing from Lecture/Tutorial/Laboratory to Lecture/Tutorial."

Note - For rationale from the Department see attachment G.

MOTION 7

"That a prerequisite be added for KIN. 496-3 - Directed Study to read:

Consent of advisor. This is to be obtained before the start of the examination period of the semester prior to the one in which the student plans to register for this course."

Note - SCUS engaged in considerable discussion regarding the difficulty of making a directed study course maximally available to students, providing opportunity for students to identify a research area while faculty members are available, and meeting the deadlines for pre-registration. The recommendation from SCUS had substituted the words "is to be obtained" for "must be obtained" with the intent of encouraging students to meet the stated deadline but protecting those who cannot. (For rationale from the department see attachment H.)

MOTION 8

"That the prerequisite for KIN. 498-3 - Undergraduate Research be changed from 'Consent of Chairman' to 'Honors standing or consent of chairperson. Approval of the research project is to be obtained before the start of the examination period of the semester prior to the one in which the student plans to register for this course.'"

Note - The wording was changed in SCUS from "must" to "is to" as in the previous motion. It was noted that the reason for approval by the chairperson is that the chairperson is more likely than another faculty member to be consistently accessible. The words "honors standing" were added on the grounds that this course is required of a student in the honors program and such a student should not therefore require additional approval to take it. (For rationale from the department see attachment H).

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MOTION 9

"That the requirements for a Minor in Kinesiology be changed to:

'The basic requirements will be (a) KIN. 100-3, (b) 21 hours of additional course work in the Kinesiology Department, of which at least 15 hours must be selected from courses numbered 300 and above. Students using this minor in preparation to teach are urged to select the courses for the minor program in consultation with the Faculty of Education and the Department of Kinesiology.'

Note - For rationale from the Department see attachment J.



Daniel R. Birch

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att.

SIMON FRASER UNIVERSITY

SCUS 75-40
as amended by SCUS.

MEMORANDUM

Mr. Harry Evans
Secretary of SCUS
Subject: Calendar Changes - Kinesiology

From: Dr. T.D. Sterling, Acting Dean
Faculty of Interdisciplinary Studies
Date: 9th October, 1975

The attached calendar changes for the Kinesiology Department Undergraduate Program have been considered by the Undergraduate Studies Committee of the Faculty of Interdisciplinary Studies and are approved.



T.D. Sterling
Acting Dean

TDS:jk

Attachments

SIMON FRASER UNIVERSITY

MEMORANDUM

To: Mr. Harry Evans
Secretary of SCUS

From: Margaret Savage, Academic Adviser
Department of Kinesiology

Subject: Calendar Changes - Kinesiology

Date: 9th October, 1975

Following is a brief description of course and program changes for the Kinesiology Department Undergraduate Program. Please refer to the rationales that are attached regarding each change.

1. On p. 269 there is to be a change in the Mathematic Requirements for a Major in Kinesiology, originally (a), now (a) or (b).
 - (a) MATH 151-3 Calculus I
MATH 152-3 Calculus II
 - (b) MATH 154-3 Calculus for the Biological Sciences
MATH 155-3 Calculus II for the Biological SciencesThis change should be made wherever it appears in the submission. (See Attachments A & B)

2. On p. 270 the Computing Science requirements for a major in Kinesiology have been changed as follows:
Delete CMPT 100-3 (now CMPT 105-3) Introduction to Computing
Add CMPT 142-1 Computing Project - Kinesiology
(See Attachment C)

3. On p. 273 there is to be a change in the course description and the addition of a recommended prerequisite for KIN. 100-3 - Introduction to Human Structure and Function:

From: KIN. 100-3 Introduction to Human Structure and Function

"Contains a simple coherent overview of the body systems which are relevant to appreciating the adaptations the human body can make. Relevance to exuberant health, pathology, rehabilitation, birth, aging, and death is emphasized." (Lecture/Tutorial)

Students with credit for KIN. 100-3 under its previous title "Introduction to Kinesiology" may not take this course for further credit.

To: KIN. 100-3 Introduction to Human Structure and Function

This course provides an insight into the structure, function and organization of the various systems of the body and how they interact to form a living organism. Material include: the nervous system; structure and function of muscle; the cardiovascular system; respiration energy metabolism; endocrinology and reproduction.

Recommended: A knowledge of Biology, Chemistry and Physics to ~~high school level.~~ Grade XI level.

(See Attachment D)

~~On p. 274 there is a change in prerequisite for KIN. 326-3 - Functional Anatomy.~~

~~From: BISC 316-3 Vertebrate Biology~~

~~To: KIN. 100-3 Introduction to Human Structure and Function~~

~~(See Attachment E)~~

4. On p. 274 there is a change in vector for KIN. 330-3 - Human Energy Metabolism from 2-0-4 to 2-1-0. The corresponding word description would change from Lecture/Tutorial/Laboratory to Lecture/Tutorial. (See Attachment F)
5. On p. 275 there will be a change in prerequisite for KIN. 442-3 - Biomedical Systems:
- From: CMPT 100-3, MATH 101-3, MATH 152-3, KIN. 100-3
- To: CMPT 103-3, MATH 152-3 or MATH 155-3, KIN. 100-3
- (See Attachment I)
6. On p. 275 the course prerequisite is to be altered for KIN. 480-3 - Human Factors in Working Environments:
- From: Prerequisites: A minimum of 90 semester hours credit with not less than 45 hours credit from courses in at least three of the following: Science, Computing Science, Economics and Commerce, Psychology and Kinesiology.
- To: Prerequisites: KIN. 100-3, PHYS 101-3, MATH 151-3 or 154-3 and not less than 45 hours credit from Science, Computing Science, *Psychology*, Economics and Commerce and Kinesiology recommended.
- The vector for this course is to change from 2-1-3 to 2-1-0. The corresponding word description will change from Lecture/Tutorial/Laboratory to Lecture/Tutorial. (See Attachment G)
7. On p. 276, a prerequisite will be added for KIN. 496-3 - Directed Study. This will be:
- Prerequisites: Consent of advisor. This *is to* be obtained before the start of the examination period of the semester prior to the one in which the students plan to register for this course.
- (See Attachment H)
8. On p. 276 the prerequisite for KIN. 498-3 - Undergraduate Research will be changed:
- From: Prerequisite: Consent of Chairman.

To: Prerequisite: ^{Honors standing or} ^{Approval of the research} _{project} _{is to be obtained} _{before the start of the examination period of the semester} _{prior to the one in which the student plans to register for} _{this course.}

(See Attachment H)

9.

On p. 271, the requirements for a Minor in Kinesiology will be changed

From: The basic requirements will be (a) 9 hours chosen from KIN. 100-3 or 142-3 or 143-3 or 241-3 plus (b) 15 hours of course work in the Kinesiology department selected from courses numbered 300 and above. Students are urged to select the courses for the minor program in consultation with the Faculty of Education and the Department of Kinesiology.

To: The basic requirements will be (a) KIN. 100-3, (b) 21 hours of additional course work in the Kinesiology Department of which at least 15 hours must be selected from courses numbered 300 and above. Students ^{using this minor in preparation to teach} are urged to select the courses for the minor program in consultation with the Faculty of Education and the Department of Kinesiology.

(See Attachment J)

SIMON FRASER UNIVERSITY

MEMORANDUM

To Mr. Harry Evans, Secretary
Senate Committee on Undergraduate
Studies
Subject

From Dr. R.C. Brown, Dean, Faculty of
Interdisciplinary Studies
Date 23rd October, 1975

In the last meeting of the Senate Committee on Undergraduate Studies I was instructed by the Committee to determine the answers to several questions regarding the Kinesiology Calendar submission. The comments below are intended to answer those questions.

- KIN. 100-3 The prerequisite statement for KIN. 100-3 was intended to indicate a secondary school competence in the sciences at the Grade 11 level. The Calendar submission therefore should be changed to "recommended: a knowledge of biology, chemistry and physics to a Grade 11 level.
- KIN. 326-3 It is not clear whether or not there has been consultation with the Department of Bio-Sciences concerning this prerequisite change. I have asked the person who normally teaches that course to consult with the Department of Biology concerning this prerequisite change. He will report back to us at a subsequent meeting.
- KIN. 480-3 The deletion of Psychology from the prerequisite for KIN. 480 was an oversight. The prerequisite statement should read ". . . not less than 45 hours of credit from Science, Computing Science, Psychology, Economics and Commerce and Kinesiology recommended."

Robert C Brown

Robert C. Brown
Dean

RCB:jk

SCUS 75-40

SIMON FRASER UNIVERSITY

MEMORANDUM

To Mr. Harry Evans, Secretary to
Senate Committee on Undergraduate
Studies
Subject Kinesiology 336-3

From Dr. R.C. Brown, Dean, Faculty of
Interdisciplinary Studies
Date 28th October, 1975

I have discussed the question of BISC 316-3 as a pre-requisite for KIN. 326-3 with Dr. Bhakthan. He tells me that Dr. Sadlier, who normally teaches BISC 316 is presently out of the country and unavailable for consultation on the matter. Dr. Bhakthan suggests that we should retain the 316 pre-requisite for another year and that he will discuss the situation with Dr. Sadlier upon his return.

RC Brown
Robert C. Brown
Dean

RCB:jk

The rationale for giving students the option of taking the Math 151, 152 series or the Math 154, 155 series was initiated by the Math Department who have started a new series of courses specifically designed for biology and kinesiology majors, namely 154-3 and 155-3. However, it was felt that kinesiology students should still have the opportunity to take Math 151-3 and 152-3 in case they want to go to an advanced level in Chemistry for which these courses are necessary.

(See attached letter from Math Department)

SIMON FRASER UNIVERSITY

MEMORANDUM

To..... Ms. Margaret Savage	From..... D. Ryeburn, Chairman
..... Department of Kinesiology Undergraduate Studies Committee
..... Mathematics Department
Subject MATH 151-3 and 152-3 versus	Date..... September 9, 1975
MATH 154-3 and 155-3	

Mathematics 154-3 and 155-3 are successors to the Biology Sections of Mathematics 151-3 and 152-3. (For several years 151 and 152 were taught in separate sections for biologists and for other people.) There is some difference in content, and a larger difference in outlook between 151 and 152 on the one hand, and 154 and 155 on the other. I will try to make these differences clear.

The main difference between 151 and 154 is that illustrative examples for 151 come mainly from geometry and physics, while in 154 they come mainly from biology. The calculus content itself is nearly identical. There is perhaps slightly less theory in 154 than 151, but there's not much theory in either one of them.

There are larger differences between 152 and 155. In addition to the difference in sources of examples, some topics are covered in one course but not in the other. In 152, infinite series is an important part of the course; it is not covered in 155 at all, since it is of minimal importance to biologists. In 155, an introduction to the calculus of functions of several variables forms part of the course; this is missing from 152 but is covered in 253, a course taken by biochemists, chemists, physicists, and mathematicians later on. Differential equations are treated to some extent in 155, but not in 152 since students in that stream can later take 310, a whole course devoted to their study. So 155 covers more topics less thoroughly, and is an excellent choice for a student taking his or her last calculus course.

I would not say that the courses are equivalent in the sense of interchangeability; if they were, we wouldn't need both of them. I would say that they are equivalent in the sense that a student in the biological sciences or in kinesiology can learn calculus appropriate to his or her needs in either stream, with the 154/155 pattern somewhat better for most such students since the examples are more familiar and the topics are more useful for such students. I recommend that your requirement read something like this: Mathematics 154 and 155 (151 and 152 are also acceptable in place of 154 and 155). Students planning to take certain physics and chemistry courses may find Mathematics 253 useful as well; 253 may be taken by students in the 154/155 stream, but 151 and 152 constitute the best possible preparation for 253.

David Ryeburn
D. Ryeburn

COURSE CHANGES IN COMPUTING SCIENCE

1. Delete Computing 100-3 as a requirement for Kinesiology majors.
2. Add Computing 142-1, Computing Project in Kinesiology.

The rationale for changing the computing requirements for the Kinesiology program are:

1. Computing 100-3 is an overview of the field of computing. It does not give the students tools which they can immediately use.
2. Computing 103-3 (presently required) plus Computing 142-1 (recommended as an addition to our requirements) would give the students adequate background to enable them to apply their computer science knowledge to the field of kinesiology. This is the purpose of having computing as a requirement for kinesiology majors.
3. Those students who desire a wider overview of computing could still take computing 100 as an elective.

KINES 100*Rationale for changing course description.*

Course description has been altered to give a more precise description of the course content and is taken from the preface of the textbook used. (There has been no change made in the actual course content or textbook.) Previous description was considered too general and slightly vague about the specific systems studied.

The rationale for introducing prerequisites for this course is primarily to give students a better indication of the level of difficulty of the course when trying to choose a program. This has only recently become a problem due to a large increase in enrollment of Arts and Education students. A proportion of these students have not appreciated that this course has a respectable scientific content and were thus totally unprepared for it. It is considered that by recommending prerequisites, this problem may be eliminated.

F.

The lab was written into the Kines. 330 course at a time when Kines. 407 (Human Physiology Laboratory) did not exist. The experiments which were done in the lab section of Kines. 330 are now more appropriately dealt with in the Kines. 407 course. We have tried substituting demonstrations (1 hr/week in tutorial time) of more sophisticated equipment and techniques, than are available for student labs, and consider that this offers a better learning experience for a course of this type (usual enrolment 20-30).

KINES. 480

Rationale for changing course prerequisite and course vector.

The Laboratory has been eliminated from this course on the grounds that there is no Laboratory space available and insufficient funds to purchase equipment. The Laboratory will be replaced by an extended Tutorial period in which demonstrations, audio-visual presentations and field visits can be arranged.

The original prerequisites for this course are unnecessarily restrictive and have been altered to make the course available to a wide range of upper level students. Thus the umbrella requirement of 90 semester hours of unspecified credit has been removed, 45 hours of credit from specified departments retained and 9 hours of credits from specific courses in KIN, PHYS, and MATHS added.

The change in the prerequisites for these courses is to add the condition that students must select their advisers and topics prior to the semester during which they plan to do Kinesiology 496 or 498. It has been found that when students attempt to select and complete a project during the same semester that a lot of valuable time is spent on deciding on a topic and frequently not enough time or effort are spent on actually working on the project.

KIN. 442-3 Prerequisite Change

I.

The prerequisite change basically reflects the changes in Computing Science and Mathematics requirements for the major in Kinesiology. MATH 101 was deleted as a major requirement in 1975, and it is not felt to be an essential prerequisite for this course.

Minor Requirements

J.

The basic changes are:

KIN. 100-3 Introduction to Human Structure and Function will now be required for the minor. This course is basic to the study of Kinesiology (it is also a requirement for the major) and it is felt that all students should take this course.

It was felt that to continue listing specific courses available for the minor would be a confusing process. Under the new regulations students can choose from the course offerings and are able to pursue a particular interest. The requirement for at least 15 hours of upper division credit remains unchanged.