

SIMON FRASER UNIVERSITY

S.75-9

MEMORANDUM

To..... SENATE

From..... SENATE COMMITTEE ON UNDERGRADUATE
STUDIES

Subject..... FACULTY OF SCIENCE - LATE CALENDAR
REVISIONS

Date..... DECEMBER 23, 1974

MOTION: "That Senate approve, and recommend approval to the Board of Governors, as set forth in S.75-9, the late Calendar revisions for:

- i) Biological Sciences
- ii) Mathematics
- iii) Physics
- iv) Chemical Physics."

S.75-9

SIMON FRASER UNIVERSITY

MEMORANDUM

To SENATE

From SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Subject SCUS.74-70 - Calendar revisions
Faculty of Science.

Date December 19, 1974

At its meeting of 17th December, 1974, the Senate Committee on Undergraduate Studies discussed the attached proposal for revisions in the Calendar entries of the Faculty of Science. This proposal is now forwarded to Senate for its consideration, with the Committee's recommendation that it be approved.

I. Mugridge
I. Mugridge

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SIMON FRASER UNIVERSITY

MEMORANDUM

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| Senate Committee on | From | S. Aronoff <i>S. Aronoff</i> |
| Undergraduate Studies | | Dean of Science |
| Subject LATE CALENDAR REVISIONS | Date | December 11, 1974 |

Attached are late calendar revisions for the consideration of SCUS at its December 17, 1974 meeting. The changes include:

- A. Revisions in the Biological Sciences Calendar Entry (Appendix A)
 - 1. Non-Science Courses for Biological Sciences Major and Honors students.
 - 2. Inclusion of MATH 154-3 and 155-3 in the Bio-Science program.
 - 3. Inclusion of CMPT 103-3 in the Bio-Science calendar entry.
 - 4. Changes in course descriptions for BISC 410, 428, 438, 481.
- B. Revisions in the Mathematics Calendar Entry (Appendix B)
 - 1. Inclusion of CMPT 103-3 in the Mathematics calendar entry.
 - 2. Revision of requirements for a Minor in Mathematics.
 - 3. Changes in prerequisites for MATH 431-4 and 469-4.
- C. Revisions in the Physics Calendar Entry (Appendix C)
 - 1. Changes in prerequisites for PHYS 381-4 and 351-4.
 - 2. Inclusion of CMPT 103-3 in the Physics calendar entry.
 - 3. Inclusion of MATH 154-3 and 155-3 in the Physics calendar entry.
- D. Revisions in the Chemical Physics Program (Appendix D)

APPENDIX A

1. NON-SCIENCE COURSES FOR BIOLOGICAL SCIENCES
MAJORS & HONORS STUDENTS

It is recommended that the University Calendar be amended as follows:

Page 246:

Delete section beginning "In addition to above:..." and the paragraph beginning "In special cases,..."

Replace with:

"In addition to the above:

A minimum of 6 semester hours of electives in subjects taken in Arts, Education (excluding EDUC 401, 402 and 405) or Interdisciplinary Studies. 6

A further 33 semester hours of electives in subjects offered by any Department or Program in the University (excluding EDUC 401, 402 and 405) of which at least 14 semester hours must be in courses numbered 300 or above. 33

Total Semester Hours 120"

Page 247:

under ELECTIVES - same entry as above, with addition "MATH 302-3 is highly recommended."

Page 247:

last line - delete "Arts"

Page 248:

Under Level 2 - before Note - delete "Arts".

Rationale:

1. To introduce flexibility into the Biological Sciences program. NOTE: The majority of course waivers granted students majoring in Biological Sciences involve the non-science requirement.
2. To increase the students' options with regard to minor programs. Most minors require between 20 and 25 semester hours of lower and upper division courses. This is particularly relevant to students wishing to minor in one of the other science departments.
3. To make our program compatible with the other science departments.

2. MATH 151-3 and 152-3 should be replaced by MATH 154-3 and 155-3 respectively wherever they appear.

(This change reflects the incorporation of calculus courses, which were created especially for Bio-Science students, into the core program.)

3. MATH 106-3 and/or CMPT 102-2 should be replaced by CMPT 103-3 wherever they appear.

(The offering of MATH 106-3 and CMPT 102-2 has been discontinued and replaced by CMPT 103-3.)

4. The course descriptions for BISC 410, 428, 438, and 481 should be changed as follows:

BISC 410-3 Comparative Ethology

Animal behaviour with emphasis on its causation and evolution, and its adaptiveness in various ecological contexts.

BISC 428-3 Experimental Techniques I

Theory and practice of contemporary analytical methods in Biological Sciences. Techniques in the areas of chromatography, radioisotope methodology, polarography, immuno- and strip electrophoresis, data presentation and analysis are included.

BISC 438-3 Experimental Techniques II

Quantitative techniques in cell biology. Measurement of cell size distribution, absorption spectra of biological material, pH titration curves and buffering capacity. Error analysis, descriptive statistics and some applications of the computer.

BISC 481-3 Biophysics

The study of biological phenomena utilizing concepts and techniques of physics and physical chemistry. Topics emphasizing vision and properties of nerve cells are considered at the levels of organism and environment, membrane and molecule.

APPENDIX B

1. Change MATH 106-3 and/or CMPT 102-2 to CMPT 103-3 wherever they appear.
2. The required courses for a Minor in Mathematics have been revised to read:
"MATH 151-3 (or 154-3) and 152-3 (or 155-3) and 232-3, and either CMPT 103-3 (or CMPT 102-2 or MATH 106-3) or MATH 161-3 or 241-2 or 253-4."
3. The prerequisites for MATH 431-4 and 469-4 have been changed as follows:
MATH 431-4 - Prerequisite: MATH 232-3
MATH 469-4 - Prerequisite: MATH 361-3. MATH 312-4 or PHYS 382-4 should precede or be taken concurrently.

APPENDIX C

1. The prerequisites for PHYS 381-4 and 351-4 have been changed as follows:

PHYS 381-4 - Prerequisite: Either PHYS 202-2, 203-2, 205-2 or PHYS 221-3.

(Rationale: The material in these three courses is far more important in preparing a student for PHYS 381-4 than is the material contained in PHYS 206-2 (see former prerequisite).)

PHYS 351-4 - Prerequisite: MATH 253-4, PHYS 202-2 and 205-2.

(Rationale: PHYS 205-2 contains a basic introduction to electromagnetic waves, and it is felt that this should be included in the background of a student entering PHYS 351-4.)

2. MATH 106-3 and/or CMPT 102-2 should be replaced by CMPT 103-3 wherever they appear.
3. MATH 154-3 and 155-3 will be allowed as substitutes for MATH 151-3 and 152-3 respectively in the prerequisites for PHYS 101-3 and 102-3.

APPENDIX D

PROPOSED CHANGES IN THE
CHEMICAL PHYSICS PROGRAM

The following changes in the Chemical Physics Honors and Major programs are recommended to accommodate changes in the prerequisite structure of certain Chemistry courses (approved by Senate, August/74):

- 1) Delete the option of taking CHEM 366-2 in both the Honors and Major program's required upper division courses in Science.
- 2) Replace CHEM 463-3 (which has been deleted from the Chemistry course offerings) with CHEM 464-2. It was decided that the same provision for prerequisite waiver be made for 464 as was made for 463, i.e. the prerequisite CHEM 261-3 can be waived if the student has taken PHYS 341-4 in place of CHEM 261-3 and 362-3.