

## MEMORANDUM

To Senate

From Senate Committee on Undergraduate  
Studies

Subject Changes - Biological Sciences

Date November 21, 1977

Action taken by the Senate Committee on Undergraduate Studies at its meeting of November 8, 1977 gives rise to the following motions:

MOTION 1

"That the proposed changes in course descriptions and prerequisites as set forth in S.77-152<sup>A</sup> be approved and recommended to the Board for approval. These changes are specifically as follows:

- 1) Change in Description - BISC 305-3
- ii) Change in Description and Prerequisites - BISC 316-3
- iii) Change in Description and Prerequisite - BISC 346-3
- iv) Change in Description and Prerequisites - BISC 347-3
- v) Change in Description - BISC 403-3
- vi) Change in Description and Prerequisites - BISC 447-3

MOTION 2

"That the proposed new courses MASC 401-6 (Special Topics in Marine Biology) and MASC 402-3 (Special Topics in Marine Biology), as set forth in paper S.77-152<sup>B</sup>, be approved and recommended to the Board for approval."

Note - Simon Fraser University is a member of the Western Canadian Universities Marine Biology Society (WCUMBS) which operates the Bamfield Marine Station. As a result the MASC entries in the S.F.U. calendar are consistent with the entries in the calendars of other member universities.

These two courses were somehow omitted from the S.F.U. calendar and are being brought forward to rectify that oversight and to bring them to the attention of S.F.U. students. Topics covered in recent offerings include:

Biology of Marine Mammals  
Biology of Molluscs  
Biology of Marine Birds



D. R. Birch

DRB/cg

SIMON FRASER UNIVERSITY

SCUS 77-43

MEMORANDUM

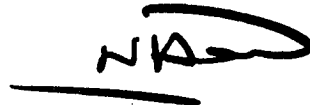
S 77-152A, B

To H.M. Evans  
Secretary, SCUS  
Subject Program Changes - BioSciences

From N. Heath,  
Assistant to the Dean of Science  
Date October 31, 1977

At its meeting of October 28, 1977, the Faculty of Science unanimously approved changes to the Biological Sciences entry in the Undergraduate Calendar contained on the attached paper. A rationale for the changes is provided in a memorandum from Dr. C.L. Kemp dated October 20, 1977, a copy of which is also attached.

These changes are herewith forwarded to the Senate Committee on Undergraduate Studies for further consideration.



N. Heath

/ad  
Attachments

# SIMON FRASER UNIVERSITY

577-152A

## MEMORANDUM

To: Members of the Faculty of Science

From: Dr. C.L. Kemp, Chairman  
Dep't of Biological Sciences  
Undergraduate Curriculum Committee

Subject: Rationale statment for proposed  
calendar changes in Biological  
Sciences

Date: October 20, 1977

Changes have been requested in the calendar descriptions of the following courses: BISC 305-3, BISC 316-3, BISC 346-3, BISC 347-3, BISC 403-3 and BISC 447-3. In each case these changes have been made to better reflect the course content and, in addition, to clarify the entries for students.

Changes in prerequisites have been requested for the following courses: BISC 316-3, BISC 346-3, BISC 347-3 and BISC 447-3.

The change in prerequisites for BISC 316-3 is recommended to ensure that students entering 300 level courses have had at least one 200 level course. BISC 204-3 was selected because it is a course in ecology which deals, to a minor degree, with the topics of adaptability and evolution.

The change in prerequisites for BISC 346-3 has been recommended in order to give students entering the course one additional option. It should be noted that the list of courses which are recommended for BISC 346-3 contains only "organism" courses, of which the added course, BISC 317-3, is one.

The change in prerequisites for BISC 347-3 is recommended in view of the fact that students who have taken BISC 337-3 will be better prepared for the content of BISC 347-3.

It is recommended that the prerequisites for BISC 447-3 be changed from BISC 347-3 to BISC 201-3 and CHEM 251-3 and CHEM 256-2 with BISC 337-3 recommended. In practice the course content of BISC 347-3 and BISC 447-3 are not sequential. In fact, some Universities present the material of BISC 347-3 and BISC 447-3 in the reverse order (e.g. University of Calgary), others in the same order as at SFU (e.g. Queens University). The principle requirement is that the student have some background in Cell Biology and Organic Chemistry. And, although not essential, some exposure to plant structure would prove useful for the student; therefore BISC 337-3 is recommended.

*cl Kemp/ad*

BIOLOGICAL SCIENCES - CALENDAR REVISIONS

Present:

BISC 305-3 Animal Physiology (3-0-4)  
Comparative physiology: homeostasis  
Prerequisites: CHEM 251-3, 256-2 and BISC  
201-3 or BICH 302-3

Change to - BISC 305-3 Animal Physiology (3-0-4)  
A comparative study of basic physiological mechanisms  
in invertebrates and vertebrates.  
Prerequisites: CHEM 251-3, 256-2 and BISC 201-3  
or BICH 302-3

Present:

BISC 316-3 Vertebrate Biology (3-0-4)  
A comparative study of functional morphology of  
organs and systems in vertebrate animals.  
Prerequisite: BISC 101-4, 102-4

Change to - BISC 316-3 Vertebrate Biology (3-0-4)  
A review of the evolution and the taxonomy of the  
vertebrate classes and a comparative study of their  
organ systems and functions with particular reference  
to reproduction. A comparison of the functional mor-  
phology of some species by laboratory dissections.  
Prerequisite: BISC 204-3

Present:

BISC 346-3 Biosystematics (2-2-0)  
An introduction to the conceptual framework used by  
contemporary biologists for the handling of diversity.  
Experimental, biosystematic and nomenclatural prac-  
tices used in identification, classification and  
biological documentation. A comparative study of  
selected orders and families of organisms to develop  
facility with taxonomic literature, field, museum and  
herbarium methods, and with the construction and use of  
taxonomic keys.  
Prerequisite: Any of BISC 306-3, 316-3, 326-3, 337-3  
(or 336-3) recommended.

Change to - BISC 346-3 Biosystematics (2-2-0)  
An introduction to the conceptual framework used by  
contemporary biologists for the handling of diversity.  
Experimental, biosystematic, and nomenclatural  
practices used in identification, classification, and  
biological documentation. Methods of character iden-  
tification and analysis; construction and use of taxo-  
nomic keys; and collection and preservation of syste-  
matic material.  
Prerequisites: Any of BISC 306-3, 316-3, 317-3, 326-3,  
337-3 (or 336-3) recommended.

## Present:

BISC 347-3 Physiology of Plant Nutrition and Metabolism (2-0-4)

Water relations and transport phenomena; photosynthesis, respiration, mineral nutrition and nitrogen metabolism; function and metabolism of plant polymers and large molecules; lipids, aromatics and carbohydrates.

Prerequisites: BISC 201-3, CHEM 251-3, 256-2.

Change to - BISC 347-3 Physiology of Plant Metabolism and Nutrition (2-0-4)

Water relations and transport phenomena; photosynthesis, respiration, and productivity; nitrogen metabolism and mineral nutrition. Physiological basis of the interaction of plants and their environment in relation to their ecological distribution.

Prerequisites: BISC 201-3, CHEM 251-3, 256-2; BISC 337-3 recommended.

## Present:

BISC 403-3 Microbial Ecology (2-0-4)

A study of the interaction of microbes with their physical, chemical and biological environment. This course will emphasize the study of viruses and bacteria, with a limited treatment of algae and fungi.

Prerequisite: BISC 303-3

Change to - BISC 403-3 Microbial Ecology (2-0-4)

A study of the interaction of bacteria, algae, and fungi with their physical, chemical and biological environment.

Prerequisite: BISC 303-3

## Present:

BISC 447-3 Control and Regulation in Plants

Physiology of hormonal and other regulatory systems.

Prerequisite: BISC 347-3 (or BISC 315-3)

Change to - BISC 447-3 Control and Regulation in Plants

Interactions of internal regulatory mechanisms and environmental factors on the physiological responses of plants in relation to growth, development and the completion of their life cycles.

Prerequisite: BISC 201-3, CHEM 251-3, 256-2; BISC 337-3 recommended.

# SIMON FRASER UNIVERSITY

S 77-152B

## MEMORANDUM

To..... H.M. Evans  
..... Secretary, SCUS  
..... New Course Proposals: MASC 401-6  
Subject..... and 402-3

From..... N. Heath  
..... Assistant to the Dean of Science  
Date..... October 31, 1977

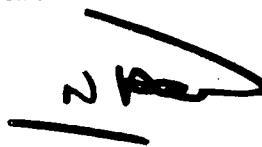
At its meeting of October 28, 1977 the Faculty of Science unanimously approved two new course proposals, MASC 401-6 and MASC 402-3, both entitled "Special Topics in Marine Science".

As outlined in the accompanying rationale statement, these courses are being proposed to rectify an apparent error in the calendar and, therefore, will require no additional budgetary or space commitments.

The proposed courses have been circulated for course overlap; to date no replies have been received indicating any overlap.

The proposed courses are also being reviewed by Mr. L. Thomas who has been requested to confirm the statements on the New Course Proposal Form concerning the library collection.

The course proposals are herewith submitted to the Senate Committee on Undergraduate Studies for further consideration.



N. Heath

/ad  
Attachments

Rationale statement for MASC 401-6 and MASC 402-3

Simon Fraser University is a member of the Western Canadian Universities Marine Biology Society (WCUMBS) which operates the Bamfield Marine Station. As a result the MASC entries in the SFU Calendar are consistent with the entries in the Calendars of other member Universities. For reasons which are not evident the courses MASC 401-6 and 402-3 were not entered in the SFU calendar. The courses are now being proposed to rectify an apparent oversight as well as to bring to the attention of SFU students these courses of intrinsic merit. Topics covered in recent offerings of these courses include:

Biology of Marine Mammals  
Biology of Molluscs  
Biology of Marine Birds



SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: Biological Sciences

Abbreviation Code: MASC Course Number: 401 Credit Hours: 6 Vector: —

Title of Course: Special Topics in Marine Biology

Calendar Description of Course: Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station. It is expected that the course will generally be of a specialized nature and be at a level appropriate to senior undergraduate students.

Nature of Course : Total immersion instruction in a specialized area for 6 weeks.

Prerequisites (or special instructions):

Prerequisites will vary and will be announced in advance of the course offering.

What course (courses), if any, is being dropped from the calendar if this course is approved:

None

2. Scheduling

How frequently will the course be offered? Usually every summer.

Semester in which the course will first be offered? Currently offered.

Which of your present faculty would be available to make the proposed offering possible? Not applicable.

3. Objectives of the Course

To provide students the opportunity to investigate an area in depth under the direction of national and international specialists.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty

Staff

Library

Audio Visual

Space

Equipment

NONE

5. Approval

Date: 14 Oct 1977

[Signature]  
Department Chairman

[Signature]  
Dean

[Signature]  
Chairman, SCUS

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: Biological Sciences

Abbreviation Code: MASC Course Number: 402 Credit Hours: 3 Vector: —

Title of Course: Special Topics in Marine Biology

Calendar Description of Course: Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course extending over a 3-week period. Course will be of a specialized nature.

Nature of Course : Total immersion instruction in a specialized area for a 3 week period.

Prerequisites (or special instructions):

The prerequisites will vary and will be announced in advance of the course offering.

What course (courses), if any, is being dropped from the calendar if this course is approved: NONE

2. Scheduling

How frequently will the course be offered? Usually one or more times per summer.

Semester in which the course will first be offered? Currently offered.

Which of your present faculty would be available to make the proposed offering possible? Not applicable.

3. Objectives of the Course

To provide students the opportunity to study specialized areas under the direction of national and international specialists.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty  
Staff  
Library  
Audio Visual  
Space  
Equipment

} NONE

5. Approval

Date: 14 Oct 1977

[Signature]  
Department Chairman

15/11/77  
[Signature]  
Dean

15/11/77  
[Signature]  
Chairman, SCUS