SIMON FRASER UNIVERSITY S.83-112

MEMORANDUM

To: SENATE

From: J. M. WEBSTER
DEAN OF GRADUATE STUDIES

Subject: PROPOSED GRADUATE CURRICULUM CHANGES - MARINE SCIENCE

Date: NOVEMBER 17, 1983

Action undertaken by the Senate Committee on Graduate Studies at its meeting of November 14, 1983, gives rise to the following motion:-

MOTION:

"That Senate approve and recommend approval to the Board of Governors, as set forth in S.83-112, the proposed

New courses - MASC 500-3 Directed Studies
MASC 501-3 Special Topics (6 weeks)
MASC 502-3 Special Topics (3 weeks) "

J.M. Webster
Dean of Graduate Studies

SIMON FRASER UNIVERSITY

MEMORANDUM

H. Evans
Secretary to Senate

From: P. Dobud
Administrative Assistant
to the Dean of Science

Subject: RECOMMENDATIONS TO SCGS

Date: October 25, 1983

The following items, described in the enclosed documentation, have been approved by the Faculty of Science. Could you please arrange to have them placed on the Agenda of the next Senate Committee on Graduate Studies Committee meeting?

NEW MARINE SCIENCE COURSES

"To approve that the following Marine Science courses at Bamfield, B.C., which may be included in a Biological Sciences graduate program, be listed in our SFU Biological Sciences Graduate Calendar (paper F-83-10)."

MASC 500-3 Directed Studies
MASC 501-3 Special Topics
MASC 502-3 Special Topics

"These courses are available for graduate course credit for M.Sc. and Ph.D. students on recommendation of the Supervisory Committee."

P. Dobud

/mgj
Encls./

cc: D. Sutton, Chairman
Faculty of Science
Graduate Studies Committee

SIMON FRASER UNIVERSITY

MEMORANDUM

F-83-10 ✓

To: Dr. D. Sutton,
Chairman, Faculty of Science
Graduate Studies Committee

From: K. K. Nair, Chairman,
Dept. of Biological Sciences.

Subject: MASC 500 LEVEL COURSES

Date: September 27, 1983.

Enclosed please find Calendar information regarding the 500 level MASC courses.

K. K. Nair

KKN/ms
Encl.

F 83-10

Department of Biological Sciences

CALENDAR INFORMATION - MASC 500 LEVEL COURSES

Insert 1 on Page 110:

From time to time graduate level courses will be offered. For details see page 260.

Insert 2 on page 260:

Marine Science courses at Bamfield, B.C., which are included in the Biology program, are offered in conjunction with certain other universities.

The following courses are available for graduate course credit for M.Sc. and Ph.D. students on recommendation of the Supervisory Committee.

MASC 500-3 Directed Studies
A graduate level course of directed studies under the supervision of a member of faculty. The study will involve a research project approved by the supervisor in the field of interest of the student, and will be designed to take maximum advantage of the laboratory and/or field opportunities offered by the Bamfield Marine Station.

MASC 501-3 Special Topics
Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station. It is expected that the course will generally be of a specialized nature and will carry graduate credit.

MASC 502-3 Special Topics - 3 weeks
Courses offered as opportunities arise, by distinguished scientists who are visiting at the Bamfield Marine Station and are prepared to offer a course extending over a 3-week period. The course will be of a specialized nature and will carry graduate credit.

Sept. 27/83

SIMON FRASER UNIVERSITY

MEMORANDUM

To: Mr. H. Evans, Registrar

From: K. K. Nair, Chairman, Dept. of Biological Sciences

Subject: MARINE SCIENCE COURSES

Date: November 21, 1983

This is in reference to the discussion we had regarding the above.

The Bamfield Marine Station (BMS) was established by a consortium of five Western Canadian universities, the Universities of Alberta, B. C., Calgary, Victoria and Simon Fraser University. One of the major activities of the Station is to offer a summer undergraduate programme that is available to students from member universities as well as to those who belong to non-member universities. With this end in view the BMS developed a series of courses in Marine Sciences (MASC) which were approved by member universities' Senate and included them in their respective Calendars under a separate heading "Marine Science" (see page 171, SFU Calendar).

As the Station now wishes to expand the offerings in Marine Sciences, and also because of sufficient interest shown by students for topics in additional fields in Marine Science, the Director of the BMS proposed a set of new courses for inclusion in the Calendar of member universities. These courses were evaluated by the Academic Committee of the Western Canadian Universities Marine Biological Society, and approved by the Management Council of the Society.

A more detailed outline of the proposed courses is herewith enclosed. Of the two 500 level courses, 501 and 502, the 501 is a total immersion course with the faculty and students interacting with each other almost on an hourly basis throughout the period of this course. The amount of work involved is not less than that of semester courses. The same can be said about the 502. Hence the quality of these courses is not different from that of other courses. By having short term intensive courses, the Station is able to attract some of the distinguished scientists whose services may not be available for longer periods because of their commitments elsewhere.

I would like to conclude by saying that if these new courses are not approved by the Senate our own students will be at a disadvantage relative to those in other universities, and will be forced to register for these courses at another member university.

If you need additional information please contact me at local 3535.

K. K. Nair

KKN/ms
cc Dr. J. F. Cochran
Dr. J. M. Webster

Encls.

MARINE SCIENCE (MASC) FACULTY OF SCIENCE

See also courses listed under Biological Sciences (BISC)

NOTE: These courses are generally offered at the Bamfield Marine Station, Vancouver Island, during the summer. See page 110 for further information.

In addition to the MASC courses listed below, the Department of Biological Sciences biennially offers a suite of Marine-oriented courses at the Bamfield Marine Station, Vancouver Island. Students interested in this offering should contact the Departmental Assistant for details of the next proposed offering in Fall 1984.

MASC 400-6 Directed Studies
A course of directed studies under the supervision of a member of faculty. The study will involve a research project approved by the supervisor in the field of interest of the student, and will be designed to take maximum advantage of the laboratory and/or field opportunities offered by the Bamfield Marine Station.

MASC 401-6 Special Topics in Marine Biology
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.
Prerequisite: Will vary and will be announced in advance of the course offering.

MASC 402-3 Special Topics in Marine Biology
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.
Prerequisite: Will vary and will be announced in advance of the course offering.

MASC 410-6 Marine Invertebrate Zoology
A survey of the marine phyla, with emphasis on the benthic fauna in the vicinity of the Bamfield Marine Station. The course includes lectures, laboratory periods, field collection, identification, and observation. Emphasis is placed on the study of living specimens in the laboratory and in the field.

MASC 411-6 Comparative Embryology of Marine Invertebrates
A comprehensive study of development of marine invertebrates available at the Bamfield Marine Station including all major phyla and most of the minor phyla. Lectures will cover gametogenesis, fertilization, regeneration, cell lineage, mosaic and regulated development, larval development and metamorphosis of the different groups. Laboratory work will include methods and techniques of obtaining and handling gametes, preparation and maintenance of larval cultures and observation of development up to metamorphosis if possible. Some selected and clearly defined classical experiments will be performed. Efforts will also be made to study various pelagic larvae.
Prerequisite: BISC 306 or 316.

MASC 412-6 Biology of Fishes
Classification, physiology, ecology, behavior and zoogeography of fishes with particular emphasis on those in the marine environment of the British Columbia coast. Local collections from a variety of habitats will be used for experimental studies.
Prerequisite: BISC 316.

MASC 420-6 Marine Phycology
A survey of the marine algae with emphasis on the benthic forms in the vicinity of the Bamfield Marine Station. The course includes lectures, laboratory periods, field collection, identification, and observation. Emphasis is placed on the study of living specimens in the laboratory and in the field.

MASC 430-6 Marine Ecology
An analytical approach to biotic associations in the marine environment. Opportunities will be provided for study of the intertidal realm in exposed and protected areas and of beaches and estuaries in the vicinity of the Bamfield Marine Station; plankton studies and investigations of the subtidal and benthic environments by diving and dredging are envisaged.
Prerequisite: BISC 306 or 326.

MASC 435-6 Introduction to Biological Oceanography
An introduction to the biology of the oceans, with supporting coverage of relevant physics and chemistry. Emphasis will be placed on plankton biology, community structure and life histories, and influencing environmental factors. Collections will be made from sheltered inlets, through Barkley Sound to offshore waters. The course will involve both field and laboratory studies of plankton organisms.
Prerequisites: BISC 306 or 326.

Directed Studies

Marine Science 500

Credit: 3 units

Calendar Description:

A graduate level course of directed studies under the supervision of a member of faculty. The study will involve a research project approved by the supervisor in the field of interest of the student, and will be designed to take maximum advantage of the laboratory and/or field opportunities offered by the Bamfield Marine Station.

Special Topics - 6 weeks

Marine Science 501

Credit: 3 units

Calendar Description:

Courses offered, as opportunities arise, by distinguished scientists who are visiting at the Bamfield Marine Station. It is expected that the course will generally be of a specialized nature and will carry graduate credit.

Special Topics - 3 weeks

Marine Science 502

Credit: 3 units

Calendar Description:

Courses offered as opportunities arise, by distinguished scientists who are visiting at the Bamfield Marine Station and are prepared to offer a course extending over a 3-week period. The course will be of a specialized nature and will carry graduate credit.

SIMON FRASER UNIVERSITY

New Graduate Course Proposal Form

CALENDAR INFORMATION:

Department: BIOLOGICAL SCIENCES Course Number: MASC 500

Title: Directed Studies

Description: A graduate level course of directed studies under the supervision of a member of faculty. The study will involve a research project approved by the supervisor in the field of interest of the student, and will be designed to take maximum advantage ~~of the laboratory and/or field opportunities offered by the Bamfield Marine Station.~~

Credit Hours: 3 Vector: Prerequisite(s) if any: none

ENROLLMENT AND SCHEDULING:

Estimated Enrollment: 6 - 8 When will the course first be offered: 1984-2 or 1985-2

How often will the course be offered: Once in 2 years.

JUSTIFICATION:

To utilize the expertise of Visiting Scientists to provide in-depth training in specialized concepts and methodology in Marine Biology.

RESOURCES:

Which Faculty member will normally teach the course: One of the Visiting Scientists

What are the budgetary implications of mounting the course: none

Are there sufficient Library resources (append details): yes

Appended: a) Outline of the Course
b) An indication of the competence of the Faculty member to give the course.
c) Library resources See attached letter from Dr. R. Foreman, Director, Bamfield Marine Station.

Approved: Departmental Graduate Studies Committee: Date: 26 Sept 83

Faculty Graduate Studies Committee: Date: October 11

Faculty: Date:

Senate Graduate Studies Committee: Date: 16/11/83

Senate: Date:

SIMON FRASER UNIVERSITY

New Graduate Course Proposal Form

CALENDAR INFORMATION:

Department: BIOLOGICAL SCIENCES Course Number: MASC 501

Title: Special Topics - 6 weeks

Description: Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station. It is expected that the course will generally be of a specialized nature and will carry graduate credit.

Credit Hours: 3 Vector: Prerequisite(s) if any: none

ENROLLMENT AND SCHEDULING:

Estimated Enrollment: 6 - 8 When will the course first be offered: 1984-2 or 1985-2

How often will the course be offered: Once in 2 years.

JUSTIFICATION:

To utilize the expertise of Visiting Scientists to provide in-depth training in specialized concepts and methodology in Marine Biology.

RESOURCES:

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What are the budgetary implications of mounting the course: none

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Faculty Graduate Studies Committee: Date: Oct 11

Faculty: Date:

Senate Graduate Studies Committee: Date: 16/11/83

Senate: Date:

SIMON FRASER UNIVERSITY

New Graduate Course Proposal Form

CALENDAR INFORMATION:

Department: BIOLOGICAL SCIENCES Course Number: MASC 502

Title: Special Topics - 3 weeks

Description: Courses offered as opportunities arise, by distinguished scientists who are visiting at the Bamfield Marine Station and are prepared to offer a course extending over a 3-wekk period. The course will be of a specialized nature and ~~will carry graduate credit.~~

Credit Hours: 3 Vector: Prerequisite(s) if any: none

ENROLLMENT AND SCHEDULING:

Estimated Enrollment: 6 - 8 When will the course first be offered: 1984-2 or 1985-2

How often will the course be offered: Once in 2 years.

JUSTIFICATION:

To utilize the expertise of Visiting Scientists to provide in-depth training in specialized concepts and methodology in Marine Biology.

RESOURCES:

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What are the budgetary implications of mounting the course: none

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Appended: a) Outline of the Course
b) An indication of the competence of the Faculty member to give the course.
c) Library resources See attached letter from Dr. R. Foreman, Director, Bamfield Marine Station.

Approved: Departmental Graduate Studies Committee: Date: 26 Sept 83

Faculty Graduate Studies Committee: Date: Oct 11

Faculty: Date:

Senate Graduate Studies Committee: Date: 16/11/83

Senate: Date:

BAMFIELD
MARINE
STATION

TO: Dr. K.K. Nair
FROM: Dr. R.E. Foreman
DATE: August 24, 1983.

Re: Proposed Marine Science Courses

The proposed new undergraduate courses will generally be offered every other year or, occasionally, every third year. The three graduate courses will probably be offered yearly depending on availability of instructors.

Library facilities at Bamfield, complimented by a cooperative inter-library loan program with the five member universities, are adequate for the courses proposed (MRSC 413, 440, 445, 446, 500, 501, and 502).

Please let me know if I can be of further assistance.

Ron

Dr. Ronald E. Foreman,
Director.

REF/lm