SIMON FRASER UNIVERSITY

S. 82-73

MEMORANDUM

SENATE	From SENATE COMMITTEE ON UNDERGRADUATE STUDIES
Subject New Course Proposal - Biological Sciences	Date June 16, 1982

Action undertaken by the Senate Committee on Undergraduate Studies at its meeting on June 15, 1982 gives rise to the following motion:-

MOTION:

"That Senate approve and recommend approval to the Board of Governors, as set forth in S.82-73 the proposed new course BISC 414-3 - Limnology."

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: Biological Scien

Abbreviation Code: BISC Course Number: 414 Credit Hours: 3 Vector: 2-0-4

Title of Course: LIMNOLOGY

Calendar Description of Course:
Biological, chemical and physical features of lakes and other inland waters. Particular attention will be directed to an examination of lakes in Western Canada and the impact of human activities on them. Local field trips form part of the laboratory work.

Nature of Course Lecture and Limnology Laboratory

Prerequisites (or special instructions):
Recommended that students have BISC 306 and/or BISC 326 and/or BISC 329.

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

2. Scheduling

How frequently will the course be offered? One semester per year or as required.

Semester in which the course will first be offered?

Which of your present faculty would be available to make the proposed offering possible? Dr. Glen H. Geen

3. Objectives of the Course

1. To teach students about inland waters with an emphasis on the flora and plankton communities and the impact of biological, chemical and physical parameters on their productivity.
2. To make students aware of the impact of human activities on inland waters.
3. To familiarize students with representative plants and animals in inland water and to introduce them to appropriate methods for working in lakes and streams.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty NONE

Staff NONE

Library NONE

Audio Visual NONE

Space NONE

Equipment NONE

5. Approval

Date: Dec. 30, 1981 January 23/82

Department Chairman — Dean — Chairman, SCUS

SCUS 73-34b:- (When completing this form, for instructions see Memorandum SCUS 73-34a

Lectures

These are intended to introduce the student to the biological, physical, and chemical features of lakes and streams.

1. Introduction to relevance of limnology and recent trends.
2. Structure of water and its characteristics of particular limnological interest.
3. Lake and stream origin.
4. Lake morphometry and its use as a predictor of production.
5. Light, temperature and water movements in lakes.
6. Dissolved gases.
7. Total dissolved solids, nutrient cycles and eutrophication.
8. Lake communities and food webs.
9. Stream organisms and their adaptations.
10. Major Canadian lake studies.

Laboratories

Laboratory work will focus on

a) Physical and chemical features of lakes (4 laboratory sessions).
b) Field survey and sampling methods (2 field trips).
c) Identification of principal components of the plant and animal populations in coastal B. C. lakes and streams.
d) Assessment of variability in samples obtained in lakes and streams.

Reserve Book List for Limnology

Golterman, H. 1975. Physiological limnology: an approach to the physiology of lake ecosystems. QH 96 G 64

Hutchinson, G. E. A Treatise on Limnology V. 1, V. 2, V. 3.

Kuttner, F. Fundamentals of Limnology.

Vollenweider, R. 1969. A manual on methods for measuring primary production in aquatic environments.

Welch, P. S. 1948. Limnological Methods.

Hynes, H. B. N. 1970. The ecology of running waters.

Hynes, H. B. N. Biology of polluted waters.

Frey, D. G. 1963. Limnology in North America.

Wetzel, R. G. 1975. Limnology.

Wetzel, R. G. and Libens, G. E. 1979. Limnological Analyses.

Vallentyne, J. R. 1974. The Algal Bowl.

Fogg, G. E. 1965. Algal Cultures and Phytoplankton Ecology.

Relevant Periodicals for Limnology Course

Canadian Journal of Fisheries and Aquatic Science
Limnology and Oceanography
Ecology
Ecological Monographs
Journal of Plankton Biology
American Scientist
American Naturalist
Science
Hydrobiologia
Journal of Ecology
Journal of Fisheries Research Board of Canada
Transactions of the American Fisheries Society
Canadian Journal of Zoology
Dikos
International Rev. ges. Hydrobiologie
Archiv fur Hydrobiologie

PLEASE NOTE: THIS COURSE HAS BEEN OFFERED AS SPECIAL TOPICS IN 78-2, 79-1, 79-3 and 81-1 WITH ENROLMENTS OF 7, 17, 9 and 7 respectively.