S.75-47

SIMON FRASER UNIVERSITY

MEMORANDUM

To SENATE	From SENATE COMMITTEE ON UNDERGRADUATE STUDIES
Subject NEW COURSE PROPOSAL - BISC 310-3	Date FEBRUARY 12, 1975

MOTION: "That Senate approve, and recommend approval to the Board of Governors, as set forth in S.75-47, the new course proposal for BISC 310-3 - Plants and Animals of British Columbia, with waiver of the normal time lag requirement to permit offering in the Summer 75-2."

S.75-47

SIMON FRASER UNIVERSITY

MEMORANDUM

To SENATE

From SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Subject NEW COURSE PROPOSAL - BISC 310-3 - PLANTS AND ANIMALS OF BRITISH COLUMBIA

Date FEBRUARY 12, 1975

On the recommendation of the Faculty of Science, the Senate Committee on Undergraduate Studies approved, as set forth in SCUS 75-13, the new course proposal for BISC 310-3 - Plants and Animals of British Columbia, and recommends approval to Senate.

I. Mugridge
per

SCUS 75-13

SIMON FRASER UNIVERSITY

MEMORANDUM

To: Senate Committee on Undergraduate Studies	From: S. Aronoff S. Aronoff Dean of Science
Subject: NEW COURSE PROPOSAL - BISC 310-3	Date: February 4, 1975

The attached course proposal, BISC 310-3, "Plants and Animals of British Columbia", has been approved by the Faculty of Science. It is now submitted to SCUS for consideration.

It should be noted that, pending approval by SCUS, the Faculty of Science requests a waiver of the time lag requirement in order that BISC 310-3 may be offered for the first time in 75-2.

/pel
Encl.

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information — Department: Biological Sciences

Abbreviation Code: BISC Course Number: 310 Credit Hours: 3 Vector: 3-0-4

Title of Course: The Plants and Animals of British Columbia.

Calendar Description of Course: "An introduction to the Plants and animals of British Columbia with emphasis on their ecology, distribution, and general characteristics. Th course will include consideration of trees, flowering plants, mammals, birds, and some of the more common non-vascular plants (mushrooms, algae and mosses). These organisms will be examined as they are found in the various biotic regions of the province of British Columbia. This course is intended for persons who have limited previous formal preparation in Biology.

Nature of Course
See attached rationale statement.

Prerequisites (or special instructions):

At least 5th semester standing in Biological Sciences, or consent of the instructor.

What course (courses), if any, is being dropped from the calendar if this course is approved: None, no similar course now exists.

2. Scheduling

How frequently will the course be offered? This course will normally be offered once a year, preferably during the summer semester although it could be offered in both intersessional and summer sessional programmes.

Semester in which the course will first be offered:
Summer, 1975.

Which of your present faculty would be available to make the proposed offering possible? There are several faculty members who could contribute to such a course offering. They include Dr. Milton McClaren, Dr. R.C. Brooke, Dr. L.D. Druehl and Dr. P. M. Sadleir in particular. We would, however, visualize making full use of the numerous resource people available in the community in offering a course of this type. (See also attached rationale.)

3. Objectives of the Course

See attached rationale.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty Present faculty are adequate although we would want to appoint some visiting faculty on a short-term basis, e.g., as lecturers in Continuing Education, or on a Special Lecture basis.

Staff A teaching assistant or field assistant would be required.

Library Library requirements are not extensive although we would want to bolster our present collection in terms of field identification texts.

Audio Visual None of special type.

Space This course will be taught in a highly field work oriented manner, but will use a general teaching laboratory for any on campus laboratory sessions.

Equipment We will need to expand our teaching collection in terms of plant and animal identification specimens. Offering of the course in the summer semester will offset this lack, until we can develop a larger collection, or can arrange to co-operate with UBC where there is now a large teaching collection.

5. Approval

Date: Dec. 16th 1974 — 5/F/75

Department Chairman — Dean — Chairman, SCUS

SCUS 73-34b:- (When completing this form, for instructions see Memorandum SCUS 73-34a. Attach course outline).

BIOLOGICAL SCIENCES 310-3

THE PLANTS AND ANIMALS OF BRITISH COLUMBIA

RATIONALE AND OBJECTIVES

There is a growing desire on the part of many students and members of the general community to know more about the various major life forms which occur in British Columbia. The formal curriculum in the Biological Sciences meets this need only in part. At no point is the student presented with an integrated, systematic examination of the biota of British Columbia. In some cases, this desire is related to their chosen profession or occupation: the elementary school teacher, the recreation worker, the landscape architect, the summer camp director, and so on, may all have very definite uses for increased knowledge of the local natural history. In other cases, the desire for increased knowledge may be totally avocational, but still perfectly serious and legitimate.

In the structure of the undergraduate curriculum in Biological Sciences at Simon Fraser we have no vehicle to meet the needs of such people, in terms of our credit course offerings. While this need might be partially met via the use of Non-Credit courses, and while this avenue should also be exploited, there are students in the above categories who require a credit course in order to obtain full recognition for their educational endeavour. None of our present upper division Organism or Ecology courses are designed to meet this need, and they are not easily adapted to meet this type of need, even if this were academically desirable.

The present proposal develops a course entitled: "The Plants and Animals of British Columbia." It is a course designed for students with a demonstrated background in biology, which may be either formal or informal. It is intended to review the major life forms of the province in terms of conspicuous coniferous and non-coniferous trees, flowers, mammals, non-vascular plants, and birds. It could also touch lightly upon common reptiles and amphibians, as well as fresh water fish, inasmuch as these latter are not numerous, in terms of numbers of species. In this way, students would obtain a basic knowledge of some of the more commonly seen life forms of the province. However, the course would not be taught as a mere "show and tell" about different organisms, but rather would attempt to relate each organism to its biological community. Moreover, the various organisms would be discussed not only in terms of their gross morphology, but also in terms of their biology: ecological requirements, life history, as well as in terms of any special aspects such as economic importance or special problems such as scarcity caused by man's activities.

The course would essentially be organized on the basis of a lecture plus laboratory, but the laboratory component would be highly field-work oriented and many of the laboratories would be field excursions to representative locations in terms of plant communities, or to areas where

.../2

certain animal types are easily observed or studied in the field. The laboratory experience would also aim at giving students a basic knowledge of how to use field guides and other types of reference materials related to the topics of the course. The emphasis in the course would not be upon the memorization of a large number of species but would rather be upon the intelligent and accurate observation of organisms and upon the ability to use suitable reference materials to arrive at an identification of the organism.

Ideally, this course will be team taught, and co-ordinated by a single faculty member who then assembles appropriate resource people to assist in various components of the course. British Columbia is blessed with many fine "naturalists", many of whom are fully professional in their competence. It would be highly appropriate for the university to draw upon these community resource persons in a course offering of this type.

The course also lends itself to offering in many novel formats. For example, it could be offered as part of the summer session programme as a special course oriented toward family groups, in which the course might travel as a "caravan" from the coast, through the interior region, studying the various communities as it went, and mixing the academic experience with a family holiday. While the course would be best taught in the summer period, simply because the flora of the province are at their best then, it could be taught during the fall, mixing evening lecture/laboratory sessions with weekend field trips.

This course is proposed as a 300-level course for a number of reasons. First, in the present structure of the Biology Curriculum, courses dealing with organisms specifically (as opposed to general concepts and processes) are offered at this level. The course is also intended for more mature students who have developed a motivation for a course of this type, hence, while we do require fifth semester standing or its equivalent in Biological Sciences, we will allow entry to the course with the permission of the instructor. For example, the course could serve the needs of several professional and semi-professional groups: recreation workers, parks branch employees, teachers, and others who are involved in programmes of "nature interpretation" for the public. These groups will usually have completed at least two years of a programme at B.C.I.T., a regional college, or at a university. This background, plus their experience, will enable them to benefit from this upper division course.

It should be noted, in conclusion, that this course is not merely a survey course, nor is it a kind of "show and tell" about the animals and plants of British Columbia. It will attempt to provide students with a basic knowledge of the flora and fauna of British Columbia in the context of their biological associations. It will obviously have to be selective in terms of the number of organisms which it considers in each community or association. However, the course will provide students with the tool skills essential to making further use of the many source books and field guides to recognition, identification, and study of various groups of plants and animals.

BIOLOGICAL SCIENCES 310-3

THE PLANTS AND ANIMALS OF BRITISH COLUMBIA

SUGGESTED OUTLINE FOR THE PROPOSED COURSE

1. Biological Nomenclature

   The species concept; the organization of the biological world.

2. Ecological Concepts

   Relationships between living organisms; basic terminology & processes.

3. The Biotic Regions of British Columbia

   The ecological regions of the province and an overview of its recent geological and biological history.

4. Field Techniques

   Observation, sampling and collection, use of keys, field guides, and other references.

5. The Coastal Region

   The Douglas Fir and Western Hemlock forest associations
   The Gulf Islands.

6. The Interior Dry Belt

7. The Alpine and Sub-Alpine Communities

8. The Interior Douglas Fir and Hemlock Communities

9. The Boreal Forest

10. Grasslands

11. Wetlands: Bogs and Marshes

12. Man and Nature in British Columbia

    Game Management, Conservation, Ecological Legislation, and Environmental Education.
    Man's Impact upon the Biological Communities of British Columbia: Mining, Hydroelectric Development, Agriculture, and general Development.

Jan. 28/75

THE PLANTS AND ANIMALS OF BRITISH COLUMBIA

Biological Sciences 310-3

Bibliography. *

1. Lyons, C.P. 1952. Trees, Flowers, and Shrubs to Know in British Columbia. J.M. Dent & Sons (Canada) Ltd. Vancouver, 1952 (Revised Edition: 1973).
2. McTaggart Cowan, I., & Guiguet, C.J. The Mammals of British Columbia. Handbook #11, Handbook Series of the British Columbia Provincial Museum. The Queen's Printer, Victoria.
3. Schofield, W.B. Some Common Mosses of British Columbia. Handbook #28, The Handbook Series of the British Columbia Provincial Museum. The Queen's Printer, Victoria, May, 1969.
4. Taylor, T.M.C. The Ferns and Fern Allies of British Columbia. Handbook #12, The Handbook Series of the British Columbia Provincial Museum. The Queen's Printer, Victoria.
5. Bandoni, R.J. & Szczawinski, A.F. Guide to Common Mushrooms of British Columbia. Handbook #24, The Handbook Series of the British Columbia Provincial Museum. The Queen's Printer, Victoria.
6. Scagel, Robert F. A Guide to Common Seaweeds of British Columbia. Handbook #27, The Handbook Series of the British Columbia Provincial Museum, The Queen's Printer, Victoria.
7. Carl, G. Clifford. The Amphibians of British Columbia. Handbook #2, The Hand-Book Series of the British Columbia Provincial Museum, The Queen's Printer, Victoria.
8. Carl, G. Clifford. The Reptiles of British Columbia. Handbook #3, The Handbook Series of the British Columbia Provincial Museum. The Queen's Printer, Victoria.
9. Robbins, Chandler S., Bertel, Bruun, & Herbert S. Zim. A Guide to Field Identification: Birds of North America. Golden Press. New York, 1966.

* This list of titles is only illustrative of the range of materials dealing with the content of this course.

SIMON FRASER UNIVERSITY

MEMORANDUM

To: Office of the Dean. Faculty of Science	From: Edward A. Weinstein Library - Sciences
Subject: Proposed New Course: BISC 310. Library Impact.	Date: February 6, 1975

BISC 310: The Plants and Animals of British Columbia. This field biology course for non-majors requires that the library complete its holdings of standard guides and field manuals. Accordingly, copies of the standard B.C. Provincial Museums series are being ordered so that both a reference and a circulating copy will be available for students. The range of such manuals, in general, is vast, so we will wait advice from the course instructors as to what material the library should provide supplemental to that prescribed for students.