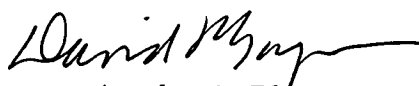


SIMON FRASER UNIVERSITY

OFFICE OF THE VICE-PRESIDENT, ACADEMIC

MEMORANDUM

To: Senate

From: D. Gagan, Chair 
Senate Committee on Academic Planning

Subject: Faculty of Science -
Termination of PBD in Aquaculture
(SCUS Reference: SCUS 97-10)
(SCAP Reference: SCAP 97-23)

Date: March 14, 1997

Action undertaken by the Senate Committee on Undergraduate Studies and the Senate Committee on Academic Planning gives rise to the following motion:

Motion:

"that Senate approve and recommend approval to the Board of Governors, as set forth in S.97 - 43 , termination of the Post Baccalaureate Diploma Program in Aquaculture."

SIMON FRASER UNIVERSITY
DEPARTMENT OF BIOLOGICAL SCIENCES

MEMORANDUM

TO: Roger Blackman
Chair SCUS

FROM: R. Ydenberg
Chair Biology DUCC

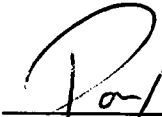
RE: PBD Aquaculture

DATE: February 3, 1997

Dear Dr. Blackman:

At its January 22, 1997 meeting the DUCC of the Biological Sciences Department, recognizing that the Aquaculture Program no longer existed, and that the last aquaculture students had completed the program, unanimously approved terminating the Post Baccalarate Program in Aquaculture. As the requisite courses are no longer offered it would seem appropriate to remove the references to it from the calendar.

The relevant passages are shaded on the attached pages.



R. Ydenberg

/fmr

Programs Offered

University Degrees

Honorary Degree

Doctor of Laws Honoris Causa

Faculty of Applied Sciences

Bachelor of Applied Science
 Bachelor of Arts (Honors)
 Bachelor of Arts
 Bachelor of Science (Honors)
 Bachelor of Science
 Bachelor of Science (Kinesiology) (Honors)
 Bachelor of Science (Kinesiology)
 Master of Applied Science
 Master of Arts
 Master of Engineering
 Master of Natural Resources Management
 Master of Science
 Doctor of Philosophy

Faculty of Arts

Bachelor of Arts (Honors)
 Bachelor of Arts (Joint Honors)
 Bachelor of Arts
 Bachelor of Fine Arts
 Bachelor of General Studies
 Master of Arts
 Master of Arts in Liberal Studies
 Master of Fine Arts
 Master of Publishing
 Doctor of Philosophy

Faculty of Business Administration

Bachelor of Business Administration (Honors)
 Bachelor of Business Administration
 Master of Business Administration

Faculty of Education

Bachelor of Education (Honors)
 Bachelor of Education
 Master of Arts
 Master of Education
 Master of Science
 Doctor of Philosophy

Faculty of Science

Bachelor of Science (Honors)
 Bachelor of Science
 Master of Pest Management
 Master of Science
 Doctor of Philosophy

Certificates and Diplomas

All Faculties

Post Baccalaureate Diploma

Faculty of Applied Sciences

Certificate in Health and Fitness Studies
 Post Baccalaureate Diploma
 Post Baccalaureate Diploma in Communication
 Post Baccalaureate Diploma in Computing Science
 Post Baccalaureate Diploma in Kinesiology

Faculty of Arts

Certificate in Chinese Studies
 Certificate in Criminology (General)
 Certificate in Criminology (Advanced)
 Certificate in Family Studies
 Certificate in First Nations Language Proficiency
 Certificate in French Canadian Studies
 Certificate in French Language Proficiency
 Certificate in Liberal Arts
 Certificate in Native Studies Research
 Certificate in Public History
 Certificate for Senior Citizens
 Certificate in Spanish Language Proficiency
 Certificate in Spatial Information Systems
 Certificate in Teaching ESL Linguistics
 Certificate in Urban Studies
 Certificate in Women's Studies
 Post Baccalaureate Diploma
 Post Baccalaureate Diploma in Community Economic Development
 Post Baccalaureate Diploma in Criminology
 Post Baccalaureate Diploma in Ethnic and Intercultural Relations
 Post Baccalaureate Diploma in French and Education
 Post Baccalaureate Diploma in Gerontology
 Post Baccalaureate Diploma in Humanities
 Post Baccalaureate Diploma in Public History
 Post Baccalaureate Diploma in Social Policy Issues
 Post Baccalaureate Diploma in Teaching English as a Second Language
 Post Baccalaureate Diploma in Urban Studies

Faculty of Education

Certificate in Literacy Instruction
 Post Baccalaureate Diploma

Faculty of Science

Certificate in Actuarial Mathematics
 * Post Baccalaureate Diploma in Aquaculture
 Post Baccalaureate Diploma in Biological Sciences
 Post Baccalaureate Diploma in Environmental Toxicology

Faculty of Science

9947, Enrum Science Centre, (604) 291-4590 Tel, (604) 291-3424 Fax,
http://www.science.sfu.ca Internet

Dean
C.H.W. Jones BSc, PhD (Manc)
See *Graduate Studies* for research interests of faculty members.

Undergraduate Degrees Offered

Bachelor of Science (Honors)
Bachelor of Science

Diplomas and Certificates Offered

Certificate in Actuarial Mathematics
Post Baccalaureate Diploma in Aquaculture *
Post Baccalaureate Diploma in Biological Sciences
Post Baccalaureate Diploma in Environmental Toxicology

Major Program

A major program provides a broad general education in several fields of study and some specialization in one field known as the major. Optional programs, which include double majors or majors and minors, are possible. General regulations are in Faculty of Science requirements for the BSc (major). For specific course requirements, refer to the academic department concerned. Students who do not wish to pursue any specialization may undertake a Bachelor of General Studies (BGS) degree. Information on this latter option may be found in the Faculty of Arts requirements.

Requirements for Major

- Students must complete 120 semester hours including the following.
 - a minimum of 28 semester hours of upper division credit courses numbered 300 and 400 as specified by the major program
 - additional semester hours of upper division credit bringing the total to a minimum of 44 semester hours of upper division credit
 - a minimum of 12 semester hours in subjects taken outside the Faculty of Science (excluding EDUC 401 to 407) including a minimum of 6 semester hours taken in the Faculty of Arts
 - a grade point average of 2.00 in the upper division courses required in the program
- Additional requirements as specified by the major program and in the *General Information* section of this Calendar may be required.

and

for students enrolled at the University beginning Fall 1991 or later
upper division grade point average (GPA) and cumulative grade point average (CGPA) as specified in the *General Information* section of this Calendar

or

for students enrolled at the University before Fall 1991

- a graduation GPA of 2.00 calculated on the required 120 semester hours, or on the last 60 semester hours taken including the 44 semester hours of upper division credit
- a GPA of 2.00 in the upper division courses required in the program

Honors Program

An honors program provides a broad general education with "in depth" study in a single field and requires the student to concentrate his/her studies in the 5th to 8th levels in the chosen field. This program is recommended for students who intend to proceed to advanced degrees, provided that they meet the entrance requirements and maintain the required standing.

Students applying for admission to an honors program will normally have a cumulative grade point average of 3.00 (B standing). A student is expected to maintain this standard to continue in the honors program.

Requirements for Honors and Honors First Class

- Students must complete 132 semester hours of credit as prescribed by the honors program which include the following.
 - a minimum of 48 hours of upper division credit in one subject area
 - additional semester hours of upper division credit bringing the total to a minimum of 60 semester hours of upper division credit
 - a minimum of 12 semester hours in subjects taken outside the Faculty of Science (excluding EDUC 401 to 407) including a minimum of six semester hours taken in the Faculty of Arts

- additional requirements as specified by the honors program and in the *General Information* section of this Calendar.

Program Guidelines

- At the outset, students are requested to indicate their intended major so as to facilitate counselling.
- Students who have not determined a major or intend to transfer to a professional school (i.e., Medicine, Dentistry, etc.) should seek advice from the Academic Resource Office or the Office of the Dean of Science.
- Declaration of major or honors must be officially accepted by that department, prior to the completion of 60 credit hours.
- New students intending to take more than 15 semester hours in their first semester of studies should seek advice from the Academic Resource Office, the Office of the Dean of Science or their major department.
- Normally, the graduation requirements, as published in the Calendar at the time of formal declaration of major or honors, will apply.
- In any combination of science programs (honors/minor, major/major, major/minor, minor/minor) the student may not use the same upper division course for formal credits towards both programs. One course might fulfill "content" requirements of two related areas, but in such a case additional replacement credits in upper division work satisfactory to one of the departments or program committees must be taken in one of the subjects to fulfill overall credit for the two programs involved.
- Programs totalling more than 18 hours of credit per semester require the approval of the Dean.

Minor Programs

Consult advisors in appropriate departments when deciding on course selection. Suggested programs and prerequisites are given in each department's Calendar entry. An average grade of at least 2.00 is required in those upper division courses used to satisfy the requirements for a minor.

General Science Program

This program, consisting of 120 credit hours, provides a broad general education in several fields with some specialization in at least two fields. It requires two minors, one of which must be chosen from within the Faculty of Science. The groupings of courses from which the two minors can be chosen are given under the *General Science Program* section in the Calendar, along with the general course requirements for this degree. It should be noted that all lower division requirements for the two chosen minors must also be completed.

University College of the Fraser Valley Program

University College of the Fraser Valley in Abbotsford, BC offers a program leading to a Bachelor of Science. This degree is offered in association with the Faculty of Science and is issued by Simon Fraser University.

Co-operative Education Programs

Co-operative Education programs are available in Biological Sciences, Chemistry, Earth Sciences, Environmental Science, Geography, Mathematics and Physics. Details are given in the departmental sections and in the *Co-operative Education* section.

Associate in Science Diploma

Students who have completed the Associate in Science Diploma from the University College of the Fraser Valley, Douglas College, or Kwantlen College are guaranteed admission to the Faculty of Science provided that they meet the requirements for University admission.

Withdrawal of Program Approval

A student whose progress, in the judgment of the department, is below the standard for graduation from a program may be refused entry to, or required to withdraw from, that program in the department.

Transfer Credit and Bachelor of Science Degrees for Students Who Successfully Complete First Year Medical Science Professional Training

Students who complete at least 90 semester hours in a science degree

164 Science – Biological Sciences

Co-operative Education Program

Majors and honors students in Biological Sciences may apply for admission into the Co-operative Education program. The program includes four work semesters during the normal academic program. Interested students should contact the Science Co-op Co-ordinators in Academic Quadrangle 5003, telephone (604) 291-4716, for further information.

Environmental Toxicology Minor Program

This program gives undergraduates working towards a sciences degree a thorough overview of environmental toxicology. Consequently, students will be better qualified and eligible for employment with various industrial and governmental agencies engaged in environmental monitoring and research.

Lower Division Requirements

The following lower division courses are required. Most students pursuing science degree programs will already have credit for most of these courses.

all of
BICH 221-3 Cellular Biology and Biochemistry
BISC 101-4 Introduction to Biology
BISC 102-4 Introduction to Biology
CHEM 102-3 General Chemistry I
CHEM 103-3 General Chemistry II
CHEM 115-2 General Chemistry Laboratory I
CHEM 118-2 General Chemistry Laboratory II
CHEM 150-3 Organic Chemistry I
CHEM 155-2 Organic Chemistry Laboratory I
CHEM 250-3 Organic Chemistry II
CHEM 255-2 Organic Chemistry Laboratory II

and one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences

and one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences

and one of
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics

and one of
PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism

Upper Division Requirements

BISC 312-3 Environmental Toxicology I
BISC 313-3 Environmental Toxicology II
BISC 432-3 Chemical Pesticides and the Environment
STAT 301-3 Statistics for the Life Sciences

plus two of
BISC 445-3 Environmental Physiology of Animals (prerequisite BISC 305-3)
CHEM 371-3 Chemistry of the Aqueous Environment (prerequisites CHEM 150 [or 251] and 261)
GEOG 419-4 Mass Transfer in the Biosphere
KIN 431-3 Environmental Carcinogenesis

and their prerequisites as noted in the *Undergraduate Courses*.

Since upper division credit may not count to fulfill credit hours for more than one program, some substitutions may be required. Appropriate course selection for substitutions would be as follows.

BICH 412-4 Enzymology
BISC 366-3 Plant Ecophysiology
BISC 405-3 Cell Physiology
KIN 305-3 Human Physiology I
KIN 306-3 Human Physiology II (Principles of Physiological Regulation)

Students wishing to pursue a minor in Environmental Toxicology should contact the Department of Biological Sciences as soon as possible.

A GPA of 2.00 or higher, is required for the courses in the minor program.

Post Baccalaureate Diploma Programs

Biological Sciences

Post Baccalaureate Diploma programs are available in various areas of Biological Sciences for students who have already completed a degree (usually) in science and who wish to upgrade their academic credentials.

Note: course descriptions for the 600 and 800 level courses are given in the *Biological Sciences* section of *Graduate Studies* in this Calendar.

For information about Post Baccalaureate Diploma programs in Biological Sciences, contact the Department of Biological Sciences.

Environmental Toxicology

This program specifically meet the needs of students with science degrees who are presently engaged in environmental work and seek to upgrade their training. Practical experience in recent laboratory assay techniques will enable students to critically evaluate the data generated by these techniques.

For information about the Post Baccalaureate Diploma program in Environmental Toxicology, refer to *Continuing Studies*.

Program Requirements

all of
BISC 312-3 Environmental Toxicology I
BISC 313-3 Environmental Toxicology II
BISC 432-3 Chemical Pesticides and the Environment

plus two of
BISC 445-3 Environmental Physiology of Animals
CHEM 371-3 Chemistry of the Aqueous Environment
GEOG 419-4 Mass Transfer in the Biosphere
KIN 431-3 Environmental Carcinogenesis

plus one of
BISC 329-4 Introduction to Experimental Techniques
BISC 429-3 Environmental Techniques I: Separation Methods
BISC 449-3 Experimental Techniques III: Histochemistry
CHEM 316-3 Introductory Instrumental Analysis
CHEM 357-3 Chemical and Instrumental Methods of Identification of Organic Compounds
KIN 336-3 Microscopic Anatomy (Histology)

plus all of
BISC 650-3 Industrial Toxicology
BISC 651-3 Food and Drug Toxicology
BISC 652-3 Problem Analysis in Environmental Toxicology
BISC 846-3 Insecticide Chemistry and Toxicology

and their prerequisites (see *Undergraduate Courses*). If the requirements (except prerequisites) have been used to fulfill requirements for another degree, additional electives in the area of specialization are required. Consult the Department of Biological Sciences.

Aquaculture

This program is for those students with science degrees who wish to receive specialized training in Aquaculture. Specific prerequisites for entry into the Post Baccalaureate Diploma in Aquaculture are as follows.

BISC 303-3 Microbiology
BISC 306-3 Invertebrate Biology
BISC 326-3 Biology of Non-Vascular Plants
BISC 416-3 Fish Biology (or equivalent)

Requirements

BISC 630-5 Introduction to Aquaculture Systems
BISC 631-5 Growth, Reproduction and Nutrition in Aquaculture Systems
BISC 632-5 Salmonid Fish Diseases and Their Control
BISC 633-1 Current Topics in Aquaculture
BUS 543-4 Introductory Graduate Marketing
ECON 663-4 The Economics and Management of Aquaculture
MRM 615-3 Management of Aquaculture Resources
Elective

Note: These, like other University diploma programs, are classified as postgraduate programs. Some courses listed above are available for credit to both Biological Sciences graduate and undergraduates. Course descriptions for the 600 level courses are in *Biological Sciences Graduate Studies* section.

Marine Science

Programs in Marine Science may include both BISC and MASC courses. Students must fulfill the upper division requirements in Biological Sciences. MASC courses are offered at the Bamfield Marine Station, Bamfield, BC in conjunction with certain other universities in the summer and fall in 3 or 6 week blocks. Consult the Department of Biological Sciences in January for course offerings scheduled for the summer and fall, and for their use as substitutions for upper division BISC courses in major, minor or honors programs.

Entry to courses requires application through the Department of Biological Sciences, well in advance of commencement of the courses, as selected candidates will be across several universities and enrollments are limited.

For information concerning application for entry, fees, and related matters, consult the Department of Biological Sciences. To take Marine Science