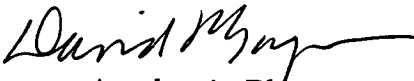


**SIMON FRASER UNIVERSITY**

**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

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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

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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 Baccaluarate 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 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



## 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 post-graduate 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. To 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