

# SIMON FRASER UNIVERSITY

S.74-42

## MEMORANDUM

To SENATE

From SENATE GRADUATE STUDIES COMMITTEE

Subject NEW COURSE PROPOSAL - BIOLOGICAL  
SCIENCES

Date JANUARY 22, 1974

MOTION: 1. "That Senate approve, as set forth in S.74-42  
the new course proposal for BISC 866-3 -  
Selected topics in plant development."

If the above Motion is approved,

MOTION: 2. "That Senate approve, as set forth in S.74-42  
that BISC 801-3 be renamed 'Cell Biology.'"

SIMON FRASER UNIVERSITY

S.74-42

To: Members of Senate

From: Office of the  
Dean of Graduate  
Studies

Subject: New Course Proposal -  
Biological Sciences

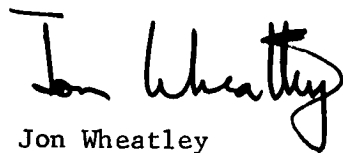
Date: January 22, 1974

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MOTION 1: "That the new course - BiSc 866-3 - be approved  
by Senate"

MOTION 2: "If BiSc 866-3 is approved, BiSc 801-3 be renamed  
'Cell Biology'"

This course and the renaming of BiSc 801-3 was approved by  
the Executive Committee of the Senate Graduate Studies  
Committee at their meeting on January 21, 1974.



Jon Wheatley  
Dean of Graduate Studies.

mm/

# SIMON FRASER UNIVERSITY

## MEMORANDUM

To..... M. McGinn.....  
Graduate Studies  
Registrar's Office.....

Subject..... NEW COURSE PROPOSAL.....

From..... S. Aronoff.....

Dean of Science.....

Date..... January 8, 1974.....

The attached new course proposal and supporting documentation for BISC 866-3 "Selected Topics in Plant Development" and the consequent revision and renaming of BISC 801-3 was approved by the Faculty of Science at its meeting of December 11, 1973 and is now forwarded to the Senate Graduate Studies Committee for consideration.

lw

# SIMON FRASER UNIVERSITY

## MEMORANDUM

Dr. J. Barlow  
Chairman,  
Faculty Graduate Studies Committee.

Subject.. Graduate Course BISC 801-3

From... Dr. J. M. Webster,  
Dept. of Biological Sciences.

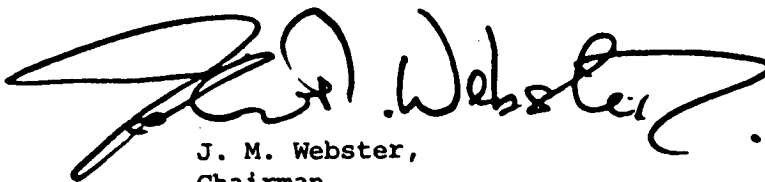
Date.. July 26, 1973.

With the introduction of the new course BISC 866-3, the content of BISC 801-3 will be revised to delete the structure and function in vascular plants.

It is therefore recommended that BISC 801-3 be revised as follows:

801-3      Cell Biology

Selected problems in cell biology.      3-0-0



J. M. Webster,  
Chairman,  
Departmental Graduate Studies Committee.

JMW/ms

STMON FRASER UNIVERSITY

New Graduate Course Proposal Form

1. GENERAL INFORMATION:

Department: Biological Sciences Course Number: 866-3  
 Title: Selected topics in plant development.  
 Description: Lectures and student seminars on selected topics in plant development particularly in relation to control mechanisms. Individual projects undertaken.  
 Credit Hours: 3 Vector: 3-0-0 Prerequisite(s) if any: Biosc 315-3 and 336-3 or consent of instructor.

2. ENROLLMENT AND SCHEDULING:

Estimated Enrollment: 4 to 8 When will the course first be offered: 74-3  
 How often will the course be offered: Once a year in summer or fall.

3. JUSTIFICATION:

There is no advanced course in this field. Together with 815-3 it will provide a more complete coverage of plants as living organisms. It will also serve as useful background material for some courses in Pestology such as 844-3, 846-3 and 848-3.

4. RESOURCES:

Which Faculty member will normally teach the course: L. M. Srivastava  
 What are the budgetary implications of mounting the course: None. Occasional guest lecturers may be invited.

Are there sufficient Library resources (append details): The library has over 400 book titles in the general area of plant development, structure, and physiology and subscribes to all the major journals in these fields.

Appended: ☒ a) Outline of the Course  
☒ b) An indication of the competence of the Faculty member to give the course.  
☐ c) Library resources

Approved: Departmental Graduate Studies Committee: [Signature] Date: July 26/73

Faculty Graduate Studies Committee: [Signature] Date: Aug 17/73

Faculty: [Signature] Date: 15/5/74

Senate Graduate Studies Committee: \_\_\_\_\_ Date: \_\_\_\_\_

Department of Biological Sciences

Appendix a - Outline of the Course

866-3      Selected Topics in Plant Development

The course will include some lectures but primarily will be based on student seminars and reviews. Some of the topics are listed below.

1. Control mechanisms in flower formation.
2. Physiology of sex expression in higher plants.
3. Role of plant hormones in growth and development of fruits.
4. Mechanisms controlling leaf fall or why do leaves fall?
5. Growth and development of roots.
6. Some examples of genetic control of organ differentiation in higher plants.
7. Shoot apex as an embryonic tissue.
8. Gibberellins, auxins and kinetins as morphogenetic substances.
9. Inhibitors in developmental processes.
10. Lateral growth in trees.

# SIMON FRASER UNIVERSITY

## MEMORANDUM

Dr. J. S. Barlow, Associate Dean,

Faculty of Science.

Subject BIO. SCI. 801-3

From L. M. Srivastava,

Dept. of Biological Sciences.

Date 11th January, 1974.

Bio. Sci. 801-3, Selected Problems in Cell Biology, has not been offered in the last few years for two reasons: 1) I was away from teaching for a while; and 2) the course description was confusing in that it included both problems in cell biology and plant structure and function. Now that there is a new course, 866-3, for selected problems in plant development, there is no such confusion and it is possible to give 801-3 as a course in selected topics in cell biology. I think it would be a mistake to delete this course on the basis of its past history. There is student demand for it and this is the only course in Cell Biology at an advanced level. As the title states it will deal with special topics which will vary from time to time depending on student demand and available expertise.

LMS/LJ

cc: Dr. J. M. Webster

RECEIVED

JAN 41 1974

PRICE

*For review please put  
course material in  
J.*

*L. M. Srivastava*  
L. M. Srivastava,  
Professor.

PLEASE READ  
AND INITIAL

|              |           |
|--------------|-----------|
| DEAN         |           |
| C. DEAN      | <i>JS</i> |
| ADMIN. ASST. |           |

# MEMORANDUM

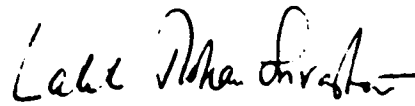
To Chairman, Departmental  
Graduate Studies Committee  
S and Biosc. 801-3

From L. M. Srivastava  
Dept. of Biological Sciences  
Date October 20, 1972

The above course appears in the Calendar as "Selected problems in cell biology and structure and function in vascular plants". As far as I recall, this course has been given only once, probably in 66-3 on 'Plant Cell Walls'. It has not been given since, partly due to my other commitments and partly due to the potential problem of having two rather different subject materials, viz. cell biology and structure and function in vascular plants, listed under the same course number. Lately, there has been some interest in both these subject materials. Accordingly, I would request you to consider the following proposal and hopefully to approve it for further processing.

In essence the proposal is to split the present 801-3 into 2 courses: One course labelled 801-3 to be retained as "Selected problems in cell biology", and the other course 836-3 to be designated "Selected topics in Plant Development". This would entail appropriate editorial changes in the calendar entry for 801-3 and create a new calendar entry for 836-3.

I would appreciate an early action by your Committee. If there is any further information that you require I will only be too glad to provide it.



L. M. Srivastava  
Professor

/pjt  
encl.



Department of Biological Sciences

Simon Fraser University

CURRICULUM VITAE

February 1973

Name: Lalit M. SRIVASTAVA Age: 40

Present Faculty Position: Professor

Term of Present Contract: Tenured - 1 September 1970  
First Appointed - 1 September 1965

Degrees: B.Sc. University of Allahabad 1950  
M.Sc. University of Allahabad 1952  
Ph.D. University of California 1962

Career: 1961-1964 Mercer Research Fellow, Harvard University  
1964-1965 Cabot Research Fellow, Harvard University  
1965-1967 Assistant Professor, Biological Sciences, SFU  
1967-1971 Associate Professor, Biological Sciences, SFU  
Sept./67- April/68 Visiting Professor, Dept. of Botany, Univ. of Delhi  
Jan-May/69 Associate Dean of Science, Simon Fraser University  
June/69- March/70 Acting Academic Vice-President, Simon Fraser Univ.  
Sept./71- Professor, Biological Sciences, SFU

Contributions to SFU

a) Courses taught

Biology 201 - Cell Biology and Biochemistry - 66-3, 67-2, 68-2, 71-2, 72-3  
Biology 336 - Biology of Vascular Plants - 67-1, 69-1, 71-1, 71-3, 73-1  
Biology 801 - Cell Biology and Morphology - 66-1  
Biology 808 - Biological Electron Microscopy - 66-1, 68-3, 70-3, 73-1

b) Other contributions

Graduate Student Supervisory Committees (current)

A. Barr - M.Sc.  
S. Hsiao - Ph.D.  
V. Lai (major) - M.Sc.  
S. McClelland (major) - M.Sc.

Post Doctoral Fellows

M. Vask 1966-1967  
A. P. Singh 1969-1971  
V. K. Sawhney, April 1972-  
B. Thair, Oct. 1972 -

Committees (current):

- Dept. Tenure and Promotions Committee
- Dept. Electron Microscope Committee
- Dept. Space Committee
- Dept. Recruiting Committee

Scholarly Status

a) Invited lectures and seminars (current):

1. Xylem vessel differentiation, Univ. of Calgary, March 1972.
2. Cambial activity in trees, Symposium speech at the Centennial celebrations of the Arnold Arboretum, Harvard University, May 23, 1972.

b) Society Membership:

- American Association for the Advancement of Science
- American Institute of Biological Sciences
- Botanical Society of America
- Canadian Society of Plant Physiology
- Canadian Society of Cell Biology - Western Director 1969-71
- Canadian Federation of Biological Societies
- Electron Microscope Society of America

Scholarly Accomplishments

a) Area of Scholarly Specialization

- Influence of environment on cell fine structure and function.
- Structure and physiology of cambium and its derivatives.

Work in progress:

1. Transport of hormones and effect of hormones on phloem transport of sucrose (with S. Clements).
2. Effect of hormones on cambial reactivation and xylem and phloem production (with V. Lai). Selected plants are being treated with hormones to determine: i) cambial activity and xylem and phloem production; ii) fine structural changes and DNA/histone balance in nuclei during differentiation of xylem and phloem elements. Both projects are near completion.

3. Site of hormone action and control of cell elongation (with V. K. Sawhney). Appropriate experiments are being carried out to determine precisely the physiological parameters which affect cell elongation and its inhibition. This information is to be used to precisely locate cell structures which effect cell elongation and to determine the site of hormone action.

b) Total Number of Publications - 23

Research papers - 21  
Invited review - 1  
Invited article - 1

Papers published in the last five years:

- 1968 Paulson, R. E. and Srivastava, L. M. The fine structure of Lactuca sativa L. embryo. I. Dry embryo. Can. J. Bot., 46: 1437-1446.
- 1968 Srivastava, L. M. and Paulson, R. E. The fine structure of Lactuca sativa L. embryo. II. Changes during germination. Can. J. Bot., 46: 1447-1454.
- 1969 Srivastava, L. M. On the ultrastructure of cambium and its vascular derivatives. III. The secondary walls of sieve elements in Pinus strobus L. Am. J. Bot., 56: 354-361.
- 1969 Paliwal, G. S. and Srivastava, L. M. An unusual type of cambium in Alseuosmia. Phytomorphology 19: 5-8.
- 1970 Srivastava, L. M. The secondary phloem of Austrobaileya scandens. Can. J. Bot., 48: 341-359.
- 1971 Srivastava, L. M., Vesk, M., and Singh, A. P. Effect of chloramphenicol on membrane transformations in plastids. Can. J. Bot. 49: 587-593.
- 1972 Srivastava, L. M. and Singh, A. P. Stomatal structure in corn leaves. J. Ultrastr. Res. 39: 345-363.
- 1972 Srivastava, L. M. and Singh, A. P. Certain aspects of xylem differentiation in corn. Can. J. Bot. 50: 1795-1804.
- 1972 Singh, A. P. and Srivastava, L. M. The fine structure of corn phloem. Can. J. Bot. 50: 839-846.

- 1973 Singh, A. P. and Srivastava, L. M. The fine structure of pea stomata. Protoplasma. 76:61-82.
- 1973 Srivastava, L. M. Cambial activity in trees. (The Arnold Arboretum Centennial Symposium Volume - in press).

Additional comments

- a) Review papers from time to time for  
Canadian Journal of Botany  
Protoplasma  
Botanical Gazette

b) Research Grants from NRC

|                            | <u>Equipment</u> | <u>Operating</u> |
|----------------------------|------------------|------------------|
| 1965-66 (with C. D. Nelson | \$30,000.00      | \$2,000.00       |
| 1966-67                    |                  | 6,000.00         |
| 1967-69                    |                  | 17,200.00        |
| 1969-70                    |                  | 8,500.00         |
| 1970-71                    | 14,000.00        | 8,000.00         |
| 1971-72                    |                  | 8,000.00         |
| 1972-73                    |                  | 8,000.00         |

SFU President's Research Fund

1967-69

\$2,100.00