

SIMON FRASER UNIVERSITY

S.82-130

MEMORANDUM

To..... SENATE

From..... SENATE COMMITTEE ON UNDERGRADUATE STUDIES

.....
FACULTY OF SCIENCE - CHANGES
Subj. BIOLOGICAL SCIENCES; CHEMISTRY CHANGES
AND NEW COURSE PROPOSALS AND CHANGE

Date.. NOVEMBER 17, 1982.....

IN MAJOR; PHYSICS CHANGES

Action undertaken by the Senate Committee on Undergraduate Studies at its meeting of November 9, 1982 gives rise to the following motions:-

MOTION 1: Biological Sciences (F-82-16)

"That Senate approve and recommend approval to the Board of Governors, as set forth in S.82-130, Biological Sciences changes in the lower division core for the Major program."

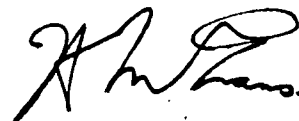
MOTION 2: Chemistry changes (F-82-17, 18, 19, 20)

"That Senate approve and recommend approval to the Board of Governors, as set forth in S.82-130, Chemistry changes including -

- i) Change in prerequisite CHEM 336-2 - Inorganic Chemistry Laboratory I
- ii) New course - CHEM 411-3 - Crystal Structure Analysis
CHEM 308-0 - Optional Practicum
- iii) Change in list of upper division courses required for the Chemistry Major program:
 - 1. Add courses
 - 2. Alter elective section."

FOR INFORMATION: Physics changes (F-82-21)

Acting under delegated authority at its meeting of November 9, 1982 the Senate Committee on Undergraduate Studies approved a change of prerequisite for PHYS 211-3 - Intermediate Mechanics.



SIMON FRASER UNIVERSITY

MEMORANDUM

S. 82-71
PART II

To: H. Evans
Secretary to SENATE
Subj: FACULTY OF SCIENCE
RECOMMENDATIONS TO SCUS

From: P. Dobud
Administrative Assistant
to the Dean of Science
Date: October 20, 1982

I would appreciate it very much if you would place on the Agenda of the next SCUS meeting, for consideration and approval, the following items approved by this Faculty... continued from S.82-129

8. Change in the Lower Division Core for the Biological Sciences Major Program

F-82-1b

From: MATH 101-3

To: MATH 102-3

9. Change in Prerequisite

F-82-17

CHEM 336-2, Inorganic Chemistry Laboratory I

From: CHEM 232-3, or 333-3

To: CHEM 332-3 or 333-3 must precede or be taken concurrently.

10. New Course Proposal

F-82-18

CHEM 411-3, Crystal Structure Analysis

11. New Course Proposal

F-82-19

CHEM 308-0, Optional Practicum

12. Change in the list of upper division required courses for the Chemistry Major Program

F-82-20

(a) To add: CHEM 332-2, Chemistry of Transition Elements
or

CHEM 333-2, Inorganic Chemistry of Biological Processes

(b) To alter the elective section to read:

"An additional 10 hours of upper division credit in Chemistry or Nuclear Science."

13. Change of prerequisites

F-82-21

PHYS 211-3, Intermediate Mechanics

From: PHYS 121-3 or 102-3

To: PHYS 121-3; or PHYS 101-3 and PHYS 102-3 with A
or B grades.

Thank you.

/mgj

P. Dobud

Attachments

cc: Dr. John F Cochran, Dean of Science
Dr. Alden Sherwood, Chairman of the Faculty of Science Undergraduate
Curriculum Committee.

SEAN FRASER UNIVERSITY

F-82-16

MEMORANDUM

To Dr. Aldan Sherwood,
Chairman - Faculty of Science
Undergraduate Curriculum Committee

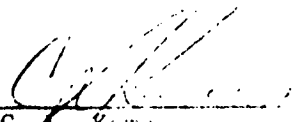
From Dr. C.L. Kemp,
Chairman Undergraduate Curriculum
Committee, Biological Sciences.

Subject MATH 101-3 and 102-3 -
Prerequisite - B.Sc.

Date May 6th, 1982

My preference would be to change the prerequisite for Math 101 in order to require Algebra 12 (or Math 100) and then consider offering a service course for those segments of the University requiring some (?) statistics if demand warrants such a course. However, **if Mathematics really feels that the current Math 101 should be retained and Math 102 introduced, then Biological Sciences would require Math 102.** In point of fact we thought we were requiring our students to take a course using mathematical notation with emphasis on standard statistical formulae. I now suspect that some of our dissatisfaction with Math 101 expressed over the years stems from our misinterpretation of the course outline for University level Introduction to Statistics course.

I suppose this shows just how non-revealing a course outline can be.


C. L. Kemp

CLR/adj

c.c.: Dr. D. Ryeburn,
Mathematics

SIMON FRASER UNIVERSITY

MEMORANDUM

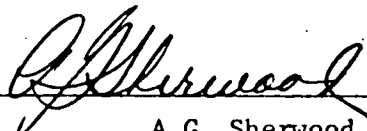
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F-82-17

To..... Members, Faculty of Science,
..... Undergraduate Curriculum Committee
Subject..... CHEM 336-2 PREREQUISITE

From..... A.G. Sherwood, Chairman, Dept. of
..... Chemistry, DUGSC
Date..... June 24, 1982

We recommend a change in the prerequisite for CHEM 336-2, as indicated on the enclosed proposal form. The compounds dealt with in the lab course involve largely transition metals and these are not treated in CHEM 232-3 but are treated in CHEM 332-3 and 333-3 which should thus be taken at least concurrently.


A.G. Sherwood

AGS:LV

Encl.

SIMON FRASER UNIVERSITY

F-82-18

MEMORANDUM

To..... Dr. G. Sherwood, Chairman
..... Faculty of Science
..... Undergraduate Curriculum Committee

From..... Dr. G. Sherwood, Chairman
..... Department of Chemistry
..... Undergraduate Studies Committee

Subject..... NEW COURSE

Date..... April 7, 1982

Enclosed is a proposal for a new course, CHEM 411-3, Crystal Structure Analysis. The subject is important to a study of chemistry since the methods to be discussed provide unambiguous information about the structures of molecules. It is also important in related areas of mineralogy, biochemistry, solid state physics and materials science.

The course will be one of the upper division electives available to science students.

AGS:pd
Enclosure


A.G. Sherwood

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: CHEMISTRY

Abbreviation Code: CHEM Course Number: 411 Credit Hours: 3 Vector: 3-1-0

Title of Course: CRYSTAL STRUCTURE ANALYSIS

Calendar Description of Course:

Geometrical features of crystals, X-ray and neutron diffraction by single crystals, structure determination and refinement techniques.

Nature of Course Lecture/tutorial

Prerequisites (or special instructions): PHYS 121-3

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

2. Scheduling

How frequently will the course be offered? On demand, at least once every two years.

Semester in which the course will first be offered? 83-3.

Which of your present faculty would be available to make the proposed offering possible? Dr. F.W.B. Einstein.

3. Objectives of the Course

To enable students to understand basic aspects of the determination of crystal structures by diffraction methods. The level of understanding to be achieved should enable students to make use of the crystallographic literature.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty

Staff

Library

Audio Visual

Space

Equipment

None, this will be an optional course given as part of the department's offerings of upper levels electives using facilities which are already available.

5. Approval

Date: 3 May 1982

A.W. Jones
Department Chairman

G.F.
Dean

Chairman, SCUS

SIMON FRASER UNIVERSITY

MEMORANDUM

To A.G. Sherwood

From F. Einstein

Chairman - DUGSC

Subject Re: Chem. 411-3

Date August 10, 1982

Sorry for my tardy response. I suggest that the prerequisite statement be changed to be Phys 121-3. The course outline is as follows:

Reference

1. Symmetry

points groups
space groups
Laue groups

International tables for X-ray
Crystallography Vol. 1
Kynoch Press (1965)

2. Generation of X-rays

Diffraction techniques applied to
(i) single crystals

(Weissenberg & Precession & diffractometer
methods)

(ii) powder samples

Elements of X-ray Crystallo-
graphy. Azaroff (1968)

3. Methods of structure solution
(Patterson and Direct)

Vector space, Buerger 1969
Crystallographic computing
Techniques. Munksgaard (1975)

4. Structure refinement

Crystallographic computing
Techniques. Munksgaard (1975)

Approximately $\frac{1}{3}$ of the time would be devoted to 1) the remainder being spent equally on each of the other three topics.


F. Einstein

FE/fb

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

F-82-19

NEW COURSE PROPOSAL FORM1. Calendar InformationDepartment: ChemistryAbbreviation Code: CHEM Course Number: 308 Credit Hours: 0 Vector: 0-0-0Title of Course: OPTIONAL PRACTICUM

Calendar Description of Course:

This is an optional work experience in Chemistry Cooperative Education Programme.

Nature of Course

Prerequisites (or special instructions):

Chem. 307-0 Practicum II

What course (courses), if any, is being dropped from the calendar if this course is approved: NIL

2. Scheduling

How frequently will the course be offered?

Whenever required

Semester in which the course will first be offered?

83-3

Which of your present faculty would be available to make the proposed offering possible? Drs. T.N. Bell, A.M. Unrau

3. Objectives of the Course

The CO-OP degree program in Chemistry includes four required practica, CHEM 306, 307, 406 and 407. CHEM 308-0 will enable a student to complete an optional fifth work semester if an opportunity arises which will broaden his experience in an important way.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty

Staff

Library

Audio Visual

Space

Equipment

NIL

5. Approval

Date:

24 June 1982

C.H.W. Jones
Department Chairman

[Signature]
Dean

[Signature]
Chairman, SCUS

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

SIMON FRASER UNIVERSITY

MEMORANDUM

~~11-82-8C~~
F-81-20

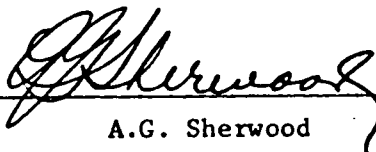
To..... Members, Faculty of Science
..... Undergraduate Curriculum Committee
Subject..... CHEMISTRY MAJORS DEGREE REQUIREMENTS

From..... A.G. Sherwood, Chairman, Dept. of
..... Chemistry, DUGSC
Date..... June 24, 1982

The inclusion, last year, of CHEM 361-3 and 357-3 in the list of required courses essentially eliminates the need to require that students take an upper-division course in organic and another in physical chemistry.

We therefore recommend that "CHEM 332-3 or 333-2" be included in the list of required courses and that the Elective section i) (Page 466 of the 1981-82 Calendar) be altered to read:

"An additional 10 hours of upper-division credit in Chemistry or Nuclear Science."


A.G. Sherwood

AGS:LV