

SIMON FRASER UNIVERSITY

S80-91

MEMORANDUM

Senate

From Senate Committee on Undergraduate Studies

Subject Co-operative Education Program in Physics

Date 1980-06-18

Action taken by the Senate Committee on Undergraduate Studies at its meeting of 17 June 1980 gives rise to the following motion:

MOTION

That Senate approve and recommend approval to the Board of Governors, as set forth in S80-91, the Co-operative Education Program in Physics, including the new practica PHYS 335-0, 336-0, 435-0 and 436-0.

Note -

Members of the Senate are directed to page 484 of the 1980/81 calendar for information on Co-operative Education Programs in general.

W. R. Birch

SIMON FRASER UNIVERSITY

SCUS 80-38

MEMORANDUM

H.M. Evans
Secretary, Senate Committee
Undergraduate Studies

Subject Proposed Co-operative Education
Program in Physics

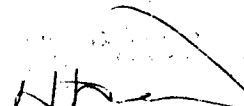
From N. Heath
Administrative Assistant
to the Dean of Science

Date 1980 06 09

At the meeting of 1980 06 05, the Faculty of Science approved the following motion:

"That the Co-operative Education Program in Physics, including the proposed new practica courses PHYS 335-0, 336-0, 435-0 and 436-0, be approved and forwarded to SCUS and Senate for consideration and approval."

Please find attached proposal forms for the new courses and some brief comments on the Program prepared by Dr. A.E. Curzon.


N. Heath

NH/mgj

Attachments

RECEIVED
JUN 11 1980
REGISTRAR'S OFFICE
MAIL DESK

NEW COURSE PROPOSAL FORM

Calendar Information

Department: Physics

Abbreviation Code: PHYS Course Number: 335 Credit Hours: 0 Vector:

Title of Course: Practicum I

Calendar Description of Course: This is the first semester of work experience in a co-operative education programme available to students who are studying physics or related areas such as biophysics, chemical physics or mathematical physics.

Nature of Course Work experience

Prerequisites (or special instructions): Students should apply to the Physics Department at least one semester in advance. Students will normally have completed 30 semester hours of credit, with a minimum G.P.A. of 2.75.

in the Physics program

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

Scheduling

How frequently will the course be offered? Two semesters per year.

Semester in which the course will first be offered? Fall 1980

Which of your present faculty would be available to make the proposed offering possible? In the Department Dr. A.E. Curzon will be supervising the programme.

Objectives of the Course

To provide the work experience required for the Co-Op Programme in Physics.

Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty

Staff

Library

Audio Visual

Space

Equipment

Additional faculty may be required to help to cover the teaching responsibilities of the Co-Op Co-ordinator.

Approval

Date: 1980 06 05

Department Chairman

Dean

Chairman, SCUS

NEW COURSE PROPOSAL FORM

Calendar Information

Department: Physics

Abbreviation Code: PHYS Course Number: 336 Credit Hours: 0 Vector:

Title of Course: Practicum II

Calendar Description of Course: This course is the second semester or work experience in a co-operative education programme available to students who are studying physics or related areas such as biophysics, chemical physics or mathematical physics.

Nature of Course Work experience

Prerequisites (or special instructions): Students should apply to the Physics Department at least one semester in advance. Physics 335 and 12 semester hours of credit following Physics 335. A minimum cumulative GPA of 2.75.

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

Scheduling

How frequently will the course be offered? Two semesters per year.

Semester in which the course will first be offered? Spring 1981

Which of your present faculty would be available to make the proposed offering possible? In the Department Dr. A.E. Curzon will be supervising the programme.

Objectives of the Course

To provide the work experience required for the Co-Op Programme in Physics.

Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty

Staff

Library

Audio Visual

Space

Equipment

Additional faculty may be required to help to cover the teaching responsibilities of the Co-Op Co-ordinator.

Approval

Date: _____

1980 06 05

JUN 17 80

Arthur Abbott
Department Chairman

[Signature]
Dean

[Signature]
Chairman, SCUS

NEW COURSE PROPOSAL FORM

Calendar Information

Department: Physics

Abbreviation Code: PHYS Course Number: 435 Credit Hours: 0 Vector:

Title of Course: Practicum III

Calendar Description of Course:

This is the third semester of work experience in a co-operative education programme available to students who are studying physics or related areas such as biophysics, chemical physics or mathematical physics.

Nature of Course Work experience

Prerequisites (or special instructions):

Students should apply to the Physics Department at least one semester in advance. Physics 336 & 60 semester hours of credit with a minimum cumulative GPA of 2.75.

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

Scheduling

How frequently will the course be offered? Initially once per year.

Semester in which the course will first be offered? Summer 1981

Which of your present faculty would be available to make the proposed offering possible? In the Department Dr. A.E. Curzon will be supervising the programme.

Objectives of the Course

To provide the work experience required for the Co-Op Programme in Physics.

Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty

Staff

Library

Audio Visual

Space

Equipment

Additional faculty may be required to help to cover the teaching responsibilities of the Co-Op co-ordinator.

Approval

Date: 1980/06/05

Arthur Mott
Department Chairman

[Signature]
Dean

[Signature]
Chairman, SCUS

JUN 17 1980

NEW COURSE PROPOSAL FORM

Calendar Information

Department: Physics

Abbreviation Code: PHYS Course Number: 436 Credit Hours: 0 Vector:

Title of Course: Practicum IV

Calendar Description of Course:

This the the fourth semester of work experience in a co-operative education programme available to students who are studying physics or related areas such as biophysics, chemical physics or mathematical physics.

Nature of Course Work experience.

Prerequisites (or special instructions): Students should apply to the Physics Department at least one semester in advance. Physics 435 and 12 semester hours of credit following Physics 435. A minimum cumulative G.P.A. of 2.75.

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

Scheduling

How frequently will the course be offered? Initially, once per year.

Semester in which the course will first be offered? Fall 1982

Which of your present faculty would be available to make the proposed offering possible? In the Department Dr. A.E. Curzon will be supervising the programme.

Objectives of the Course

To provide the work experience required for the Co-Op Programme in Physics.

Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty

Staff

Library

Audio Visual

Space

Equipment

Additional faculty may be required to help to cover the teaching responsibilities of the Co-op co-ordinator.

Approval

Date: _____

1980 06 05

JUN 05

Arthur Keefe
Department Chairman

[Signature]
Dean

[Signature]
Chairman, SCUS

CO-OPERATIVE EDUCATION PROGRAM IN PHYSICSRationale

Co-operative education combines academic studies and work experience related to those studies. The rationale for co-operative education is to give the student studies related work experience and to improve the students' employment opportunities on graduation.

Feasibility

Co-op programs in physics are already successfully operated by the Universities of Waterloo and Victoria. In addition I have been contacting various potential employers and have found them supportive.

Dr. J.C. Irwin has placed two students on an informal basis and I have found three jobs for the coming Summer. This is a small start but it indicates that S.F.U. should be able to compete with those already in the field.

Proposed Calendar Entry"Co-Operative Education

Co-operative education combines academic studies and work experience related to those studies. The student spends a total of four semesters off campus in study-related jobs.

Arrangements for the work experiences are made through the Department's Co-op Co-ordinator and the University's Office of Co-op Education. For further details on the Co-op System students should refer to page _____ of the calendar."

A.E. Curzon
Professor of Physics

April 1980

SIMON FRASER UNIVERSITY

E 3-4.

MEMORANDUM

To Dr. J.M. Webster, Dean

From A.E. Curzon

Faculty of Science

Department of Physics

Subject PHYSICS CO-OP PROGRAMME

Date 1980-06-19

Frequency of Courses

The present plan is to continue with the existing time-table so that students not in co-op will in no way be affected by the introduction of co-op. The time-table constraint means that work study semesters will have to be available at various times depending on whether the student is doing physics, mathematical physics or chemical physics. This explains the proposed offerings of co-op courses.

Naturally, I hope that the programme will attract many new students in which case it should then be possible to extend our offerings of physics courses. This will also increase flexibility in the time-tables for non-co-op students, thus these latter students should welcome the introduction of co-op.

Sequence of Offerings

The various physics programmes have inevitably an extensive pre-requisite structure which makes time-tabling difficult. Mr. Kerr prepared a number of sample time-tables which were subject to the constraint that the co-op student should complete the programme in the minimum time of 8 study semesters plus 4 work semesters. It proved to be possible in all our programmes but not if work and study semesters alternate. If the restriction of minimum time is relaxed, which is not unreasonable because by no means all students even now complete their degrees in the minimum time of 8 semesters, then more flexibility in time-tabling results. An example of a minimum time sequence in honours physics is:

| | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|
| F | Sp | Su | F | Sp | Su | F | Sp | Su | F | Sp | Su |
| S1 | S2 | W1 | S3 | S4 | S5 | W2 | S6 | W3 | S7 | S8 | W4 |

All the various sequences have disadvantages, for example this one ends as a work semester and the work semesters do not alternate.

My view is that such problems are inevitable at the beginning but they should disappear once the programme gets under way. The main point is that at least the programme can be started with existing resources - 1) without altering the time-tables of existing students and 2) without requiring new co-op students to take longer than 8 study semesters plus 4 work semesters to complete their co-op degree should they wish to finish in minimum time.

As soon as a student lets me know he is interested in co-op and the semester he wishes to start a work semester, I will provide him with a time-table so that he may decide whether it will suit him or whether he wishes to start in another semester.

The First Practicum

I had hoped to get the programme before Senate earlier than this, that is why the first practicum was scheduled for the Fall of 1980. This is now probably unrealistic.

The reason for scheduling the second practicum in the Spring of 1981 is that some physics students have already completed their first practicum in computing science and may wish to carry out the second practicum in physics - possibly in the Spring of 1981. I do not have a particular student in mind at the moment, thus, Summer 1981 would be acceptable.

A. E. Curzon

A.E. Curzon

AEC/dy

cc: Dr. A. Sherwood, Chairman
Faculty of Science
Undergraduate Curriculum Committee

