S74-95a.b

SIMON FRASER UNIVERSITY

MEMORANDUM

To SENATE

From SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Subject PHYSICS CURRICULUM PROPOSALS, S.74-102a REQUIREMENTS FOR A MINOR IN PHYSICS, S.74-102b

Date JULY 26, 1974

MOTION: "That Senate approve, as set forth in S.74-95a

the new course proposals for:

PHYS 492-2 - Special Topics in Physics
PHYS 493-3 - Special Topics in Physics
PHYS 494-4 - Special Topics in Physics."

(Note: If these courses are approved, page 283 of the current Calendar, lines 7 and 8 will be replaced by "Courses numbered 300 and above, of which at least 8 hours must be in courses from the following list: PHYS 411-4, 412-4, 421-4, 431-4, 432-4, 461-4, 471-4.")

MOTION: "That Senate approve, as set forth in S.74-95b

the requirements for a Minor in Physics."

S.74-95a

SIMON FRASER UNIVERSITY

MEMORANDUM

To SENATE

From Senate Committee on Undergraduate Studies

Subject

Date July 26, 1974

At its meeting of 16th July, the Senate Committee on Undergraduate Studies considered the attached new course proposals for Physics 492-2, 493-3, and 494-4, all of which are special topics courses. The Committee recommends to Senate that these courses be approved.

It should be noted that the one important question at issue in the Committee's discussion of these courses concerned the problem of using special topics courses as part of the major program in Physics. During this discussion, it was agreed by the Associate Dean of Science that he would request a statement from the Physics Department detailing their intentions on this question; and the courses were passed on this understanding. This statement is included as part of the attached documentation.

I. Mugridge

:ams

att.

SCUS 74-25

SIMON FRASER UNIVERSITY

As amended and approved by SCUS July 16, 1974

MEMORANDUM

To: Senate Committee on Undergraduate Studies

From: S. Aronoff S Aronoff
Dean of Science

Subject: PHYSICS CURRICULUM PROPOSALS

Date: June 28, 1974

The Faculty of Science approved the attached new course proposals for PHYS 492-2, 493-3, and 494-4 (Appendix A), and the proposed Minor Program in Physics (Appendix B) at its meeting of June 28, 1974. These items are now submitted to SCUS for consideration.

lw

cc: J.F. Cochran, Chairman
Department of Physics

APPENDIX A

Special Topics Courses in Physics

From time to time it is desirable to offer courses which are not required for Physics Department degree programs, but which are of value to the students in this and other departments in the university. In the past this has been done on a regular basis, each fall semester, with the offering of a Periphysical Topics course, Physics 197-3, 198-3, or 199-3. To date four different topics have been subjects of these courses: Physical Oceanography, Modern Astronomy, Magnetism, Physics of Music. The courses have been well-received by the university community to the extent that they are popular, one (Modern Astronomy) has been taught three times by popular request, and there is one student (a Mathematics major) who took all four and liked them.

The occasion arises, however, when this mode of presentation is inappropriate to the subject matter. Many physics topics of interest mostly to science students are appropriate to the upper level student and should be designated with an upper level number. Among these are: Introductory Biophysics, Advanced Electronics, Theoretical Acoustics, Gravitation, Stellar Evolution, etc. Such courses would require previous work in Science courses and permission of the instructor would be required for admission.

It seems appropriate to list in the Calendar upper level courses simply designated *Special Topics in Physics* as empty bottles waiting to be filled by topics such as those listed above. Different-sized bottles are necessary for different-sized courses, and we propose to list three, in sizes of two, three and four semester hours. For each size bottle there might need to be several shapes; eg. a Theoretical Acoustics course and an Advanced Electronics course might both be put in four semester hour bottles, but the former might have three lectures and a tutorial, while the latter requires one lecture and a four hour laboratory per week. For this reason we wish to list no vector with the calendar entry as a preferable alternative to listing several courses with different vectors. Since the transcript is meant to convey information we feel it is desirable that the title of the course taught appear on the transcript instead of *Special Topics in Physics*. This will also decrease misunderstandings in the interpretation of a transcript which lists the same course number more than once, as it did for the Mathematics student mentioned earlier. This practice has been followed (inconsistently) in the past for our Periphysical Topics courses.

If these courses are approved we hope to offer *PHYS 493-3* in the 74-3 semester under the title of *Introductory Biophysics*. We request that the requirement of a ~~one-year~~ wait between approval and first offering of a course be waived for this course.

1-Semester

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: Physics

Abbreviation Code: PHYS Course Number: 492 Credit Hours: 2 Vector: 2-0-0

Title of Course: Special Topics in Physics

Calendar Description of Course:

Studies in areas not included within the undergraduate course offerings of the Physics Department.

Nature of Course

Prerequisites (or special instructions):

Permission of the the instructor.

What course (courses), if any, is being dropped from the calendar if this course is approved: None. There must be a change in the Physics Major Program requirements, however, to exclude this course from the group which satisfies the 8 semester hours of upper level Physics requirement.

2. Scheduling

How frequently will the course be offered? Irregularly and infrequently.

Semester in which the course will first be offered? Not known.

Which of your present faculty would be available to make the proposed offering possible? Several, but their identities are unpredictable.

3. Objectives of the Course

The course is intended to fulfil two functions. It can be used as a testing ground for physics courses which we may add in the future. It can be used to offer special topics for which there is a simultaneous student demand and faculty interest.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty: Additional faculty will be required to teach this course, or a replacement for faculty obligations in regular course offerings.

Staff: Teaching Assistants may be required.

Library: Usually a negligible consideration for these courses.

Audio Visual: Minimal additional requirements anticipated.

Space: No additional space required.

Equipment: It is possible that small equipment purchases will be necessary.

5. Approval

Date: 17 APRIL 1974

J. F. Cochran per A. E. Curzon

Department Chairman | Dean | Chairman, SCUS

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

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: Physics

Abbreviation Code: PHYS Course Number: 493 Credit Hours: 3 Vector: 3-0-0

Title of Course: Special Topics in Physics

Calendar Description of Course:

Studies in areas not included within the undergraduate course offerings of the Physics Department.

Nature of Course

Prerequisites (or special instructions):

Permission of the instructor.

What course (courses), if any, is being dropped from the calendar if this course is approved: None. There must be a change in the Physics Major Program requirements, however, to exclude this course from the group which satisfies the 8 semester hours of upper level Physics requirement.

2. Scheduling

How frequently will the course be offered? Irregularly.

Semester in which the course will first be offered? 74-3, K. Colbow on Biophysics.

Which of your present faculty would be available to make the proposed offering possible? Several, but their identities are unpredictable.

3. Objectives of the Course

The course is intended to fulfil two functions. It can be used as a testing ground for physics courses which we may add in the future. It can be used to offer special topics for which there is a simultaneous student demand and faculty interest.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty: Additional faculty will be required to teach this course, or as replacement for faculty obligations in regular course offerings.

Staff: Teaching Assistants may be required.

Library: Usually a negligible consideration for these courses.

Audio Visual: Minimal additional requirements anticipated.

Space: No additional space will be required.

Equipment: It is possible that small equipment purchases will be necessary.

5. Approval

Date: 17 APRIL 1974

J.F. Cochran per A.E. Curzon

Department Chairman Dean Chairman, SCUS

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

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: Physics

Abbreviation Code: PHYS Course Number: 494 Credit Hours: 4 Vector: 4-0-0

Title of Course: Special Topics in Physics

Calendar Description of Course:
Studies in areas not included within the undergraduate course offerings of the Physics Department.

Nature of Course

Prerequisites (or special instructions):

Permission of the instructor.

What course (courses), if any, is being dropped from the calendar if this course is approved: None. There must be a change in the Physics Major Program requirements, however, to exclude this course from the group which satisfies 8 semester hours of upper level Physics requirement.

2. Scheduling

How frequently will the course be offered? Irregularly and infrequently.

Semester in which the course will first be offered? Not known.

Which of your present faculty would be available to make the proposed offering possible? Several, but their identities are unpredictable.

3. Objectives of the Course

The course is intended to fulfil two functions. It can be used as a testing ground for physics courses for physics courses which we may add in the future. It can be used to offer special topics for which there is a simultaneous student demand and faculty interest.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty: Additional faculty will be required to teach this course, or replacement for faculty obligations in regular course offerings.

Staff: Teaching Assistants may be required.

Library: Usually a negligible consideration for these courses.

Audio Visual: Minimal additional requirements anticipated.

Space: No additional space will be required.

Equipment: It is possible that small equipment purchases will be necessary.

5. Approval

Date: 17 APRIL 1974

J.F. Cochran per A.E. Curzon

Department Chairman | Dean | Chairman, SCUS

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

S.74-95a

SIMON FRASER UNIVERSITY

MEMORANDUM

To SENATE

From SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Subject

Date July 26, 1974

At its meeting of 16th July, the Senate Committee on Undergraduate Studies considered the attached proposal for a Minor in Physics. The Committee now transmits this to Senate for its consideration and recommends that it be approved.

I. Mugridge

:ams

att.

SIMON FRASER UNIVERSITY

MEMORANDUM

To: Mr. Harry Evans
Registrar

From: J. S. Barlow
Acting Dean of Science

Subject: Calendar Revision - Physics

Date: July 22, 1974

This is the revision to the section of the calendar dealing with the Physics Major Programme necessitated by the introduction of the Special Topics Courses.

Page 283 of the current calendar, lines 7 and 8, substitute:
"courses numbered 300 and above, of which at least 8 hours must be in courses from the following list:
PHYS 411-4, 412-4, 421-4, 431-4, 432-4, 461-4, 471-4."

JSB:erb

APPENDIX B

THE MINOR IN PHYSICS

We have been asked to set out requirements for the degree designation of a "Minor in Physics". In accordance with Senate regulations we feel that the following would be an appropriate calendar entry:

MINOR IN PHYSICS

To qualify for a minor in Physics a student must complete a minimum of 14 semester hours of courses chosen from among the upper division Physics courses numbered 300 and above (excluding Special Topics courses in Physics), together with all the pre-requisites for those courses.

Only a handful of students can be expected to be interested, but the requirements we have set out here are as liberal as possible under Senate regulations.

Leigh Hunt Palmer

Leigh Hunt Palmer,
Chairman
Physics Department Undergraduate
Studies Committee