

# SIMON FRASER UNIVERSITY

S.73-49

## MEMORANDUM

To SENATE

From SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Subject NEW COURSE PROPOSALS - KINESIOLOGY  
430-3 - ANALOGUE AND DIGITAL  
INSTRUMENTATION

Date MARCH 15, 1973

442-3 - BIOMEDICAL SYSTEMS  
466-3 - ACQUISITION OF MOTOR SKILLS

MOTION 1: "That Senate approve the new course proposals,  
as set forth in S.73-49, for the following:  
Kinesiology 430-3 - Analogue and Digital  
Instrumentation;  
Kinesiology 442-3 - Biomedical Systems  
Kinesiology 466-3 - Acquisition of Motor Skills."

If the above motion passes,

MOTION 2: "That Senate waive the normal two semester time  
lag requirement in order that Kinesiology 430-3 -  
Analogue and Digital Instrumentation - may first  
be offered in the Fall semester 73-3."

# SIMON FRASER UNIVERSITY

S. 73-49

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Subject NEW COURSE PROPOSALS - KINESIOLOGY  
430-3 - ANALOGUE AND DIGITAL  
INSTRUMENTATION  
442-3 - BIOMEDICAL SYSTEMS  
466-3 - ACQUISITION OF MOTOR SKILLS

Date MARCH 15, 1973

On recommendation of the Faculty of Interdisciplinary Studies, the Senate Committee on Undergraduate Studies approved the following new course proposals in Kinesiology and recommends approval to Senate:

Kinesiology 430-3 - Analogue and Digital Instrumentation  
Kinesiology 442-3 - Biomedical Systems  
Kinesiology 466-3 - Acquisition of Motor Skills

It is recommended that Senate waive the normal two semester time lag requirement in order that Kinesiology 430-3 - Analogue and Digital Instrumentation - may first be offered in the Fall semester 73-3.

# SIMON FRASER UNIVERSITY

## MEMORANDUM

To: Mr. H. Evans

Registrar

From: I. Mugridge

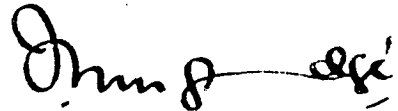
Assistant Vice-President, Academic

Subject:

Date: March 12, 1973.

As you are aware, the Academic Planning Committee has deferred consideration of the proposed revisions in the Undergraduate Program of the Department of Kinesiology pending an external review of the program and the Department. This postponement has occasioned some difficulties for the Department's future scheduling; and the Chairman of the Department has requested through Dean Brown, that some courses which were included in the program to accommodate recent additions to the faculty of the Department should be forwarded to Senate without awaiting the external review. This request was made to the Academic Planning Committee, which has referred it to the Senate Committee on Undergraduate Studies.

SCUS has already examined the Kinesiology proposal, both as a whole and course by course, and recommended approval. The courses concerned, Kinesiology 430, 442 and 466, may therefore be forwarded to Senate as separate courses in the normal way.



I. Mugridge

:ams

c.c. Dr. Bradley  
Dr. Brown

NEW COURSE PROPOSAL

CALENDAR INFORMATION

Department: KINESIOLOGY

Course Number: 430 Title:  
Analogue and digital instrumentation

Sub-title or Description:

An Introduction to the principles of analogue and digital electronic circuits and the application of these to problems of measurement and control in the physical and life sciences.

Prerequisites. Physics 204-2

Credit Hours: 3

Vector Description: 2-1-2

Prerequisite(s): Physics 204-2

II ENROLMENT AND SCHEDULING

Estimated Enrolment: 15-20

Semester Offered (e.g., Yearly, every Spring, twice yearly, Fall and Spring):

Fall, yearly

When course will first be offered:

Fall, 1973

III JUSTIFICATION

A. What is the detailed description of the course including differentiation from lower level courses, from similar courses in the same department and from courses in other departments in the University?  
There is no similar course currently available in the university. It should have general appeal to those in the life and physical sciences.

B. What is the range of topics that may be dealt with in the course?

1. An introduction to electrical circuits (a review of physics)
2. The transistor
3. Analogue circuits - the amplifier
4. Digital circuits - gates and registers
5. Problems in measurement - examples will be drawn from the life and physical sciences to match the background of the students.
6. Problems in experimental control - the interface between experimental apparatus and digital systems.

C. How does this course fit the goals of the department?

Students in the life sciences generally benefit greatly from instruction in biomedical instrumentation for measurement.

D. How does this course affect degree requirements?

Presently, few options are available as electives from courses within the department. This course will provide an extension of these options.

E. What are the calendar changes necessary to reflect the addition of this course?

Addition of this course

F. What course, if any, is being dropped from the calendar if this course is approved?

None.

G. What is the nature of student demand for this course?

All Kinesiology majors have need of this course. Demand presently unknown.

H. Other reasons for introducing the course.

IV

BUDGETARY AND SPACE FACTORS

A. Which faculty will be available to teach this course?

T. Calvert

**B. What are the special space and/or equipment requirements for this course?**

This will require a laboratory. The existing Kinesiology "Bookstore" Lab. would be suitable. Some simple equipment would be required (oscilloscope, VTVM, oscillator, miscellaneous components). Based on an estimated \$2000 per lab group, an initial set up for 5 groups would cost \$10,000 initially and thereafter supplies in the amount of \$1000 per offering.

**C. Any other budgetary implications of mounting this course:**

None. Existing library and audio-visual facilities are adequate.

**APPROVAL - Faculty Curriculum Committee:**

**Faculty:**

**Senate:**

SIMON FRASER UNIVERSITY

NEW COURSE PROPOSAL

I. CALENDAR INFORMATION

Department: Kinesiology      Course Number: 442      Title: Biomedical Systems

Sub-title or Description: The concepts and tools of systems analysis will be introduced. Since these involve a philosophy of problem solving rather than a catalog of techniques they will be applied to a number of very different problems in biomedicine and kinesiology.

Credit Hours: 3

Vector Description: 2-1-0

Prerequisite(s): CMNS 100-3, Math, 101-3, Math, 152-3, Kines, 100-3

II. ENROLMENT AND SCHEDULING

Estimated Enrolment: 10 → 15

Semester Offered (e.g., Yearly, every Spring, twice yearly, Fall and Spring):

Spring - Yearly

When course will first be offered:

Spring, 1974

III. JUSTIFICATION

A. What is the detailed description of the course including differentiation from lower level courses, from similar courses in the same department and from courses in other departments in the University?

No similar courses are currently available.

The proposed Computer Science course CS305, Computer Simulation and Modelling will complement item 5 below but will not serve as an introduction to systems analysis.

B. What is the range of topics that may be dealt with in the course?

1. The philosophy of systems analysis
2. Models for systems components
3. Deterministic systems - steady state and transient
4. Stochastic systems
5. Simulation
6. The application of systems analysis to a number of systems such as: the respiratory system, the motor control system, systems involving growth and training, health care and educational systems, world dynamics.

*C. How does this course fit the goals of the department?*

Students in the life sciences generally benefit greatly from exposure to system theory. This stimulates integration of material from other courses.

*D. How does this course affect degree requirements?*

Presently, few options are available as electives from courses within the department. This course will extend the options.

*E. What are the calendar changes necessary to reflect the addition of this course?*

Addition of this course

*F. What course, if any, is being dropped from the calendar if this course is approved?*

None

*G. What is the nature of student demand for this course?*

All Kinesiology majors have need of this course.

*H. Other reasons for introducing the course.*

IV

BUDGETARY AND SPACE FACTORS

*A. Which faculty will be available to teach this course?*

T. Calvert



*B. What are the special space and/or equipment requirements for this course?*

The only cost involves some demonstrations of computer simulation- approx. \$200/offering.

*C. Any other budgetary implications of mounting this course:*

Existing library and audio-visual facilities are adequate.

**APPROVAL - Faculty Curriculum Committee:**

**Faculty:**

**Senate:**

SIMON FRASER UNIVERSITY

FACULTY OF EDUCATION

NEW COURSE PROPOSAL

I CALENDAR INFORMATION

Department: Kinesiology

Course Number: 466 Title:

Acquisition of Motor Skills

Sub-title or Description:

Concerned with the processes underlying the acquisition of skilled responses and the development of rational principles to enhance learning.

Credit Hours: 3

Vector Description: 2-1-0

Prerequisite(s): Kines. 366-3

II ENROLMENT AND SCHEDULING

Estimated Enrolment: 15 → 20

Semester Offered (e.g., Yearly, every Spring, twice yearly, Fall and Spring):

When course will first be offered:

1974-2

III JUSTIFICATION

A. What is the detailed description of the course including differentiation from lower level courses, from similar courses in the same department and from courses in other departments in the University?

This course will be directed toward the question of how skills may be taught most effectively and will not be concerned with the idea of education through the medium of skill training. Skills will be considered in a general sense but the emphasis will be on skills which are predominantly motor in nature. The University at this time does not offer such a course.

B. What is the range of topics that may be dealt with in the course?

Phases of skill learning  
Taxonomy of skills  
Transfer of learning  
Feedback and learning  
Retention  
Cognitive set and skill learning  
Developmental aspects of skill learning  
Motivation and learning  
Individual differences  
Skills and the aged  
Stress and learning

C. *How does this course fit the goals of the department?*  
Since this course will be concerned with the general principles involved in the development of movement skills it is compatible with the goals of the Kinesiology Department.

D. *How does this course affect degree requirements?*

Optional Course

E. *What are the calendar changes necessary to reflect the addition of this course?*

Addition of course listing

F. *What course, if any, is being dropped from the calendar if this course is approved?*

None

G. *What is the nature of student demand for this course?*

The course will be useful to anyone who will be involved in teaching or training programs. Student demand for such a course is high.

H. *Other reasons for introducing the course.*  
The course will be of practical use to students but because the material will be based on current theories of Performance rather than on empirically derived practice the basic material will provide a basis for constant revision as opposed to obsolescence.

IV

BUDGETARY AND SPACE FACTORS

A. *Which faculty will be available to teach this course?*

J.M. Montgomery

B. What are the special space and/or equipment requirements for this course?

None

C. Any other budgetary implications of mounting this course:

\$100.00

APPROVAL - Faculty Curriculum Committee:

Faculty:

Senate: