S.74-53

SIMON FRASER UNIVERSITY

MEMORANDUM

To SENATE

From ACADEMIC PLANNING COMMITTEE (SCUS)

Subject FACULTY OF INTERDISCIPLINARY STUDIES - KINESIOLOGY UNDERGRADUATE STUDIES PROPOSALS

Date APRIL 18, 1974

MOTION 1: "That Senate approve the Kinesiology Undergraduate Studies proposals, as set forth in S.74-53."

MOTION 2: "That Senate waive the normal two semester time lag requirement in order that KIN. 110-3, KIN. 241-3, KIN. 402-4, and KIN. 406-3 may be first offered in the Fall semester 74-3, and that KIN. 407-3 and KIN. 480-3 may be first offered in the Spring semester 75-1."

(NOTE: The changes include:-

Changes in requirements for a Major in Kinesiology and for Honors in Kinesiology;
The introduction of a Minor in Kinesiology;
Some renumbering, retitling and changes in courses and descriptions;
Some changes in prerequisites to courses;
Proposals for new courses:

KIN. 110-3 - Current Topics in Human Nutrition
KIN. 241-3 - Sports Injuries - Prevention and Rehabilitation
402-4
KIN. ~~402-3~~ - Mechanical Properties of Tissues
KIN. 406-3 - Human Physiology II
KIN. 407-3 - Human Physiology Laboratory
KIN. 480-3 - Human Factors in Working Environments.)

S.74-53

SIMON FRASER UNIVERSITY

MEMORANDUM

To SENATE

From Academic Planning Committee

Subject

Date April 19, 1974

The Academic Planning Committee has considered the revised proposals for the undergraduate curriculum in the Kinesiology Department, as now set forth in the attached paper SCUS.74-18 and recommends approval to Senate.

B.G. Wilson

:ams

att.

SCUS 74-18

(REPLACING SCUS 74-15)

As amended and approved by
SCUS April 9, 1974.

KINESIOLOGY PROPOSAL

PROPOSED REVISIONS OF KINESIOLOGY CURRICULUM

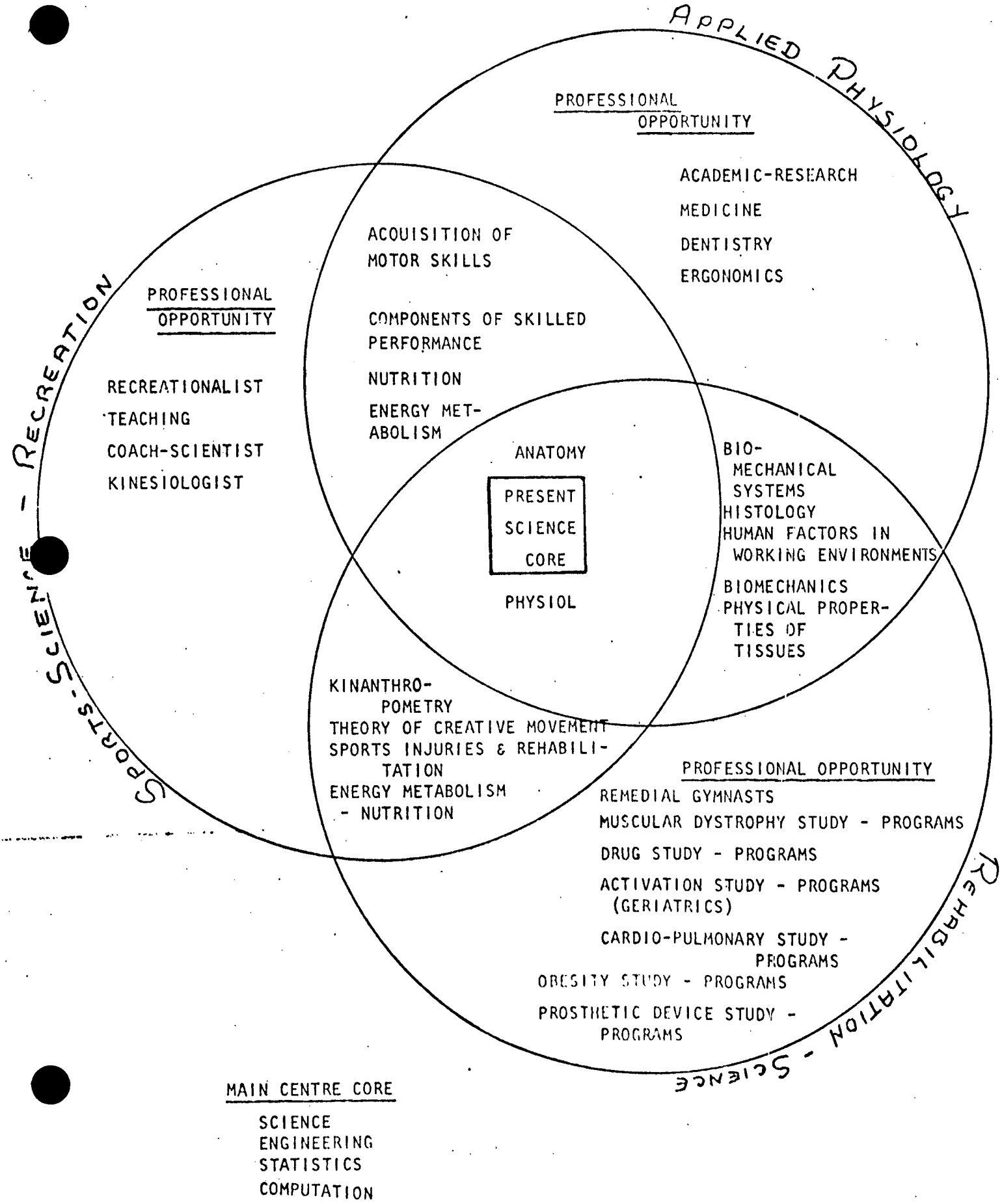
INTRODUCTION

The Kinesiology Department at Simon Fraser University during its early years presented an approach to the study of man which was rather unique in North America. Since that time, the department has been paid the compliment of having similar programs initiated at other institutions in Canada and the U.S.A. During this period, partly as a result of normal evolution and partly due to changes among faculty, the department has widened its interests and areas of effective application. Within the past two years, the administrative placement of Kinesiology has changed and there have been major changes in the perceived need of society for university graduates. Additionally, an external review committee from medicine, biological science and computer science has given general approval to the course direction and content within the stricture of defining the departmental goals less widely and adopting a phased implementation of those parts of the program which call for degrees of co-operation from without the department.

As a result of these comments, we considered this to be an appropriate time to reassess our program offerings in the light of needs in Canadian society and existing course offerings at S.F.U. and at other universities. This reassessment has led us to the conclusion that with a relatively minor restructuring of courses, and with minimal increase in faculty (in a quantity recommended by the review committee) we can offer a much wider range of options, which will at the same time raise our standards and attract students for whom there are no comparable facilities existing in the provincial universities.

The attached proposal reflects what we feel is a program which makes optimum use of the various abilities within the department at this time and which will provide viable career opportunities for graduating students (Figure 1).

Figure 1 Interaction and Courses in Designated Areas



MAIN CENTRE CORE

SCIENCE
ENGINEERING
STATISTICS
COMPUTATION

UNDERGRADUATE PROGRAM

REQUIREMENTS FOR A MAJOR IN KINESIOLOGY

Core Program

For major students, the science core program specifies that the following courses be taken during the first four levels (semesters).

Kinesiology	100-3
Biology	101-4, 102-4, 201-3, 203-3
Chemistry	104-3, 105-3, 115-2, 251-3, 256-2
Physics	101-3
Mathematics	151-3, 152-3
Computer Science	100-3, 102-2

Two courses selected from one or more of the departments of Psychology, P.S.A. or Communication Studies (at least 6 hours).

Total hours required are at least 60 of which 50 are specified as above. The remaining 10 hours are electives which may be selected from any department in the university according to the student's eligibility to take them. Students should be aware that certain optional upper level courses carry with them other prerequisites not specified in the above courses.

During the last 4 levels (semesters) students must advance their total of accumulated hours to at least 120 of which 45 must be numbered 300 or above and which include the following specific courses (12 hours)

Kinesiology 326-3

Kinesiology 405-3

Kinesiology 406-3

Kinesiology 407-3

and 30 hours from any of the following:

Physics 333-4 (Calvert)

Kinesiology 241-3, 303-3, 320-3, 330-3, 336-3, 344-3, 366-3, 401-4, 402-4, 420-3, 442-3, 466-3, 480-3, 496-3, 498-3.

The remaining 18 hours are free electives from courses offered by any department in the university. Three of these hours, however, must be from courses numbered 300 or above.

REQUIREMENTS FOR AN HONORS PROGRAM IN KINESIOLOGY

An Honors Program requiring a minimum of 132 semester hours for graduation is available to students at the end of the fourth level. Entry into the Honors Program requires approval of the Chairman of the Department. The Honors Program is identical to the Major Program except that in the upper levels the student will be required to complete an Honors Paper and not less than 60 hours of upper division course work numbered 300 and above with at least 50 hours of such work in Kinesiology numbered 300 and above, including the courses specified for a Major. Any additional hours may be for course work in Arts, Interdisciplinary Studies, Science, or Education (excluding Education 401/402, 405).

REQUIREMENTS FOR A MINOR IN KINESIOLOGY

The basic requirements will be (a) 9 hours chosen from Kinesiology 100-3 or 142-3 or 143-3 or 241-3 plus (b) 15 hours of course work in the Kinesiology Department selected from courses numbered 300 and above. Students are urged to select the courses for their minor program in consultation with Faculty of Education and the Department of Kinesiology.

AREAS OF SPECIAL EMPHASIS

For those students who are studying Kinesiology and who have selected a particular career or occupational field, the department offers programs of study with a major emphasis in each of the following areas: applied physiology, rehabilitation science, and sports science - recreation. Lists of courses which would be appropriate for studies in each of these areas are given below. These lists contain both required courses and suggested options. The existence of these areas does not imply that a student must be committed to any particular emphasis.

UNDERGRADUATE OFFERINGS

CURRENT	PROPOSED
040-3 Contemporary Health Issues Seminar	Change 140-3 drop "Seminar"
042-3 Man and Movement	Change 142-3
043-3 Exercise Management	Change 143-3
044-3 Aesthetic Forms of Human Movement	Change 144-3
100-3 Introduction to Kinesiology	100-3 Introduction to Human Structure and Function
	110-3 Current Topics in Human Nutrition
	241-3 Sports Injuries - Prevention & Rehabilitation
303-3 Human Growth and Physical Development	303-3 Kinanthropometry

320-3 Cultural Aspects of Human Movement	320-3 No Change
326-3 Gross Anatomy	326-3 Functional Anatomy
330-3 Human Energy Metabolism	330-3 No Change
Physics 333-4 Introduction to Instrumentation in Life Sciences	Physics 333-4 No Change
336-3 Microscopic Anatomy	336-3 Microscopic Anatomy (Histology)
344-3 Theory of Creative Movement	344-3 No Change
366-3 Components of Skilled Performance	366-3 No Change
401-4 Mechanics of Human Movement	401-4 No Change
	402-4 Mechanical Properties of Tissues
405-3 Physiology of Motor Activity	405-3 Human Physiology I
	406-3 Human Physiology II
	407-3 Human Physiology Laboratory
420-3 Seminar - Kinesiology	420-3 Prerequisite (at least 90 semester hours)
442-3 Bio-Medical Systems	442-3 No Change
466-3 Acquisition of Motor Skills	466-3 No Change
	480-3 Human Factors in Working Environments
496-3 Directed Study	496-3 No Change
498-3 Undergraduate Research	498-3 No Change

SUGGESTED PROGRAM IN AREAS OF SPECIAL EMPHASIS

1. Applied Physiology:

The following is a list of courses which would provide appropriate options in this program.

Biology 101-4,* 102-4,* 201-3, 202-3, 203-3, 301-3, 303-3, 305-3, 401-3, 402-3, 428-3, 438-3, 448-3

Chemistry 104-3,* 105-3,* 106-2, 115-2,* 117-2,* 251-2,* 252-3,* 256-2,* 261-3,* 356-2,* 422-3, 426-2, 427-2

Physics 101-3,* 102-3,* 203-2 and 202-2 or 205-2

Mathematics	101-3, 151-3,* 152-3,* 302-3
Psychology	101-3, 150-3, 201-3, 325-3, (351-3, 355-3) 360-3, 380-3, 430-5
P.S.A.	101-3, 172-3, 231-3
CMPT	100-3, 102-2, 240-3, 250-3, 290-3, 305-3
CMNS	100-3, 200-3, 303-3
Kinesiology	100-3, 110-3, 140-3, 241-3, 303-3, 326-3, 330-3, 336-3, 366-3, 402-4, 405-3, 406-3, 407-3, 430-3, 442-3, 480-3

*courses marked with an asterisk are required for admission to U.B.C. and some other Canadian medical schools.

2. Sports Science and Recreation:

Selections from the following courses would provide an appropriate major or minor for those students who plan to teach physical education at the secondary level, become sports technical coaches or recreationalists.

Kinesiology	100-3, 110-3, 140-3, 142-3, 143-3, 144-3, 241-3, 303-3, 320-3, 326-3, 330-3, 344-3, 401-3, 402-3, 405-3, 406-3, 407-3, 466-3
Biology	204-3, 304-3, 403-3
CMPT	100-3, 102-2, 118-3
CMNS	200-3, 320-5, 331-5, 401-5
Geography	242-3, 324-3, 349-3, 382-3, 421-5, 424-5, 443-5
P.S.A.	101-3, 172-3, 231-3
Econ. & Commerce	202-3, 223-5, 332-3, 333-3, 343-3, 345-5, 387-3, 488-3

Planning - community design - architecture - U.B.C. schools

3. Rehabilitation Science:

A student emphasizing work in this area should select courses from those below appropriate to his own particular interests.

Biology	101-4, 102-4, 201-3, 202-3, 203-3, 305-3, 402-3
Chemistry	104-3, 105-3, 115-3
Physics	101-3, 102-3, 201-2, 202-2, 203-2, 204-2
Mathematics	151-3, 152-3
CMNS	100-3, 210-3
Psychology	302-3, 304-3, 340-3, 347-3
CMPT	100-3, 102-2, 118-3, 240-3
Psychology	201-3, 302-3, 304-3, 335-3, 340-3, 347-3, 351-3, 370-3, 470-5
Kinesiology	100-3, 110-3, 140-3, 142-3, 143-3, 241-3, 303-3, 320-3, 326-3, 344-3, 366-3, 401-4, 402-4, 405-3, 406-3, 407-3, 466-3, 480-3

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Number change, Calendar description change, Title change

1. Calendar Information — Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *140* *(formerly 040)* Credit Hours: *3* Variable:

Title of Course: *Contemporary Health Issues* *(formerly Contemporary Health Issues Seminar)*

Calendar Description of Course:
This course will focus on current problems in developing and sustaining the health and fitness of the nation. Topics discussed will range from indices of current national health status, present health care delivery systems, allied para-medical agencies, new methods in marketing health, review of the concepts of preventive and rehabilitative health care across the broad spectrum of society and special topics such as drug abuse, human sexuality, medical technology and ergonomics. Students who have taken PDS 240-3 or Kin. 040-3 cannot take Kin. 140-3 for further credit.

Nature of Course *Lecture and Tutorial*

Prerequisites (or special instructions): *None*

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? *Each semester*

Semester in which the course will first be offered? *Currently offered*

Which of your present faculty would be available to make the proposed offering possible? *Banister, Savage, Davison*

3. Objectives of the Course

To examine current health issues affecting the individual and society.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*None*
Equipment	*None*

5. Approval

Date: _____

_____ Department Chairman

_____ Dean

_____ Chairman, SCUS

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

Lectures

1. Introduction to course (Forseeable Trends)
2. Forseeable Trends in World Health
3. World Dynamics
4. World Dynamics
5. World Dynamics
6. Sport, Physical Recreation and National Health
7. Medical Problems of Increased Sport Oriented Society
8. Film (Encounter Group Therapy)
9. Drug Groups and Effects
10. Drugs and Addiction
11. Pastoral Medicine
12. Pastoral Medicine
13. Life Style, Environment and Health Problems
14. Mid Term
15. Modern Medicine
16. Alienation and Societal Problems
17. Degenerative Cardio Vascular Disease
18. Degenerative Cardio Vascular Disease
19. Human Sexuality
20. Human Sexuality
21. Health Care Systems
22. Health Care Systems
23. Technology in Medicine
24. Technology in Medicine
25. Ergonomics
26. Ergonomics

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE NAME AND NUMBER CHANGE

Department: *Kinesiology*

Calendar Information

Abbreviation Code: *KIN.* Course Number: *142* Credit Hours: *3* Vector: *1-0-2*

(Formerly 042)

Title of Course: *Introduction to Kinesiology (formerly Man and Movement)*

Calendar Description of Course:
An analysis of the physiological and psychological status of the individual in relationship to physical performance.

Nature of Course

Prerequisites (or special instructions):

Students with credit for PDS 242-3 or KIN.042-3 cannot take KIN.142-3 for further credit.

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? *3 semesters, yearly*

Semester in which the course will first be offered? *Now being taught*

Which of your present faculty would be available to make the proposed offering possible? *Same as present. Savage, Davison, Ross.*

3. Objectives of the Course

1. *To introduce the student to the various areas of Kinesiology.*
2. *To expose students to basic principles developed in upper level courses.*
3. *To introduce topics allied to Kinesiology, e.g. ergogenic aids & sports; body image.*

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty *None*

Staff *None*

Library *None*

Audio Visual *None*

Space *None*

Equipment *None*

5. Approval

Date: _____

_____ Department Chairman

_____ Dean

_____ Chairman, SCUS

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

KINESIOLOGY 142

(formerly Kinesiology 042)

M.V. Savage

Introduction to Kinesiology

(formerly Man and Movement)

Course Outline:

Week	
1	Introduction Body Image
2	Somatotype
3	Obesity and Weight Control
4	Musculoskeletal System
5	Quiz I
6	Strength and Flexibility
7	Mechanics of Human Movement
8	Cardiovascular and Respiratory Systems
9	Quiz II
10	Endurance
11	Environmental Conditions
12	Ergogenic Aids
13	Quiz III

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM *NUMBER CHANGE*

1. Calendar Information *(formerly 043)* Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *143* Credit Hours: *3* Vector: *1-0-3*

Title of Course: *Exercise Management*

Calendar Description of Course:

Describes the principles and practices in exercise management for men and women. Special reference is given to the cardio-respiratory system. Medical clearance from a personal physician is advised.

Nature of Course *Lecture and laboratory sessions*

Prerequisites (or special instructions):
Students who have taken KIN.043-3 may not take KIN.143-3 for further credit.

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? *Each semester*

Semester in which the course will first be offered? *ongoing*

Which of your present faculty would be available to make the proposed offering possible? *Chapman, Banister, Ross, Savage*

3. Objectives of the Course

To teach concepts of preventive health maintenance and safe methods of exercising both the cardio-respiratory system and musculo-skeltal system.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*None*
Equipment	*None*

5. Approval

Date: _____

Department Chairman Dean Chairman, SCUS

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

KINESIOLOGY 143 LECTURES

Lectures - one per week

1. The general concept of fitness and its measurement by simple means
2. Scientific factors governing mobility of joints
3. The oxygen transport system
4. Aerobic Training
5. Anerobic Traning
6. Diet and Endurance
7. Scientific factors governing muscular strength
8. Strength - training with and without apparatus
9. Novel forms of strength training
10. Circuit training
11. Interval Circuit Training
12. Training for local muscular endurance
13. Management of Exercise Programs with varied groups of individuals

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM

NUMBER CHANGE

Department: *Kinesiology*

1. Calendar Information

Abbreviation Code: *KIN.* Course Number: *144* *(Formerly 044)* Credit Hours: *3* Vector: *0-0-4*

Title of Course: *Aesthetic Forms of Human Movement*

Calendar Description of Course:

An investigation of the creative and aesthetic aspects of selected human movement forms.

Nature of Course *A general education course - techniques.*

Prerequisites (or special instructions):

Students who have credit for PDS 244-3 or KIN.044-3 may not take KIN.144-3 for further credit.

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? *Twice per year*

Semester in which the course will first be offered? *Fall, 1974.*

Which of your present faculty would be available to make the proposed offering possible? *Iris Garland*

3. Objectives of the Course

1. *To become aware of the body as a form of artistic expression*
2. *To expand the range of movement vocabulary.*

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*Arrangements are underway for Education Building conversion.*
Equipment	*None*

5. Approval

Date: _____

_____ _____ _____

Department Chairman Dean Chairman, SCUS

... completing this form, for instructions see Memorandum SCUS ,3-...a.

KINESIOLOGY 144

COURSE OUTLINE

WEEK	
1	Projecting the Body Through Space. Directional Changes.
2	Articulation of Body Parts
3	Basic Locomotor Steps
4	Basic Locomotor Patterns Combined with Spatial Changes.
5	Qualities of Movement. Contrasting Energies
6	Utilization and Manipulation of Gesture.
7	Language and Movement. The Motional Qualities of Verbs.
8	Rhythm and Movement. Accent, Meter, Phrasing.
9	Design and Shape. Symmetrical and Asymmetrical in Juxtaposition with Oppositional and Successional Design
10	The Arc between two deaths. Balance and off balance.
11.	Movement and Sounds.
12	Molecular Energy and Movement.
13.	Rehearsal and Performance of Group Projects for FINAL EXAMINATION.

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM *TITLE CHANGE*, DESCRIPTION CHANGE

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN* Course Number: *100* Credit Hours: *3* Vector: *2-1-0*

Title of Course: *Introduction to Human Structure and Function (formerly Introduction to Kinesiology)*

Calendar Description of Course:
Contains a simple coherent overview of the body systems which are relevant to appreciating the adaptations the human body can make. Relevance to exhuberant health, pathology, rehabilitation, birth, aging and death is emphasized.

Nature of Course

Prerequisites (or special instructions):
Students with credit for KIN. 100-3 under its previous title 'Introduction to Kinesiology' may not take this course for further credit.

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? *Usually alternatively with Kines. 110*

Semester in which the course will first be offered? *already scheduled Summer '74*

Which of your present faculty would be available to make the proposed offering possible?

3. Objectives of the Course

This course will introduce the study of human movement as a scientific discipline studying the concepts of anatomy, physiology, mechanics, growth and motor learning.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*None*
Equipment	*None*

5. Approval

Date: _____

Department Chairman	Dean	Chairman, SCUS

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

KINESIOLOGY 100 LECTURES

Lecture

1. Functional Organization of the Human Body
2. Nerve and Muscle
3. Nerve and Muscle
4. The Central Nervous System
5. The Central Nervous System
6. Sensory and Motor Functions: Vision
7. Sensory and Motor Functions: Motor Control
8. Integration of Sensory and Motor Function
9. Exam I
10. Cardiovascular and Respiratory System
11. Cardiovascular and Respiratory System
12. Cardiovascular and Respiratory System
13. Cardiovascular and Respiratory System
14. Nutrition and Energy Metabolism
15. Nutrition and Energy Metabolism
16. Psychology of Obesity
17. Body Temperature Control
18. Exam II
19. The Gastrointestinal System
20. The Gastrointestinal System
21. The Gastointestinal System
22. Endocrinology and Reproduction
23. Endocrinology and Reproduction
24. Endocrinology and Reproduction
25. Endocrinology and Reproduction
26. Endocrinology and Reproduction

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *110* Credit Hours: *3* Vector: *2-1-0*

Title of Course: *Current Topics in Human Nutrition*

Calendar Description of Course:

A study of the basic nutritional needs and general nutritional status of affluent and indigenous populations. Causes and consequences of undernutrition and malnutrition, food additives and contaminents, nutrition in health, disease and in athletic preparation etc. will be studied.

Nature of Course *Lecture and Tutorial*

Prerequisites (or special instructions):

None

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

2. Scheduling

How frequently will the course be offered? *Yearly - every Fall.*

Semester in which the course will first be offered? *74-3*

Which of your present faculty would be available to make the proposed offering possible?

3. Objectives of the Course

To give simple nutritional concepts to students.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*Honoraria for guest lecturers from outside the university -$250.00*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*None*
Equipment	*None*

5. Approval

Date: _____ _____ _____

_____ _____ _____

Department Chairman Dean Chairman, SCUS

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

KINESIOLOGY 110 - COURSE OUTLINE

LECTURE:

1. Introduction: food and nutrition in human health and disease
2. Proteins, carbohydrates, and fats
3. Introduction to vitamin and mineral requirements
4. Fallacies and faddism in nutrition - an introduction to experimenta methods
5. Vegetarianism, organic diets and health foods
6. Starvation and protein undernutrition
7. Vitamin C
8. Vitamin E
9. Vitamin A
10. Iron
11. Magnesium
12. Fluoride
13. Additives, drugs and poisons in our food
14. Monosodium glutamate and the "Chinese Restaurant Syndrome"
15. Nutritional losses in food processing and preparation
16. Malnutrition due to defective digestion and absorption
17. Commerciogenic nutritional disease
18. Ethnic, institutional and cafeteria diets
19. Individual variability in nutritional requirements
20. Obesity and the regulation of caloric intake
21. Nutrition in athletic preparation
22. Nutrition and heart disease
23. Special nutritional requirements in disease (diabetes, gout)
24. Nutritional problems of alcoholics and other addicts
25. Early nutritional effects on brain development
26. Nutritional aspects of disaster: war, famine, pestilence
27. World nutrition - problems and prospects
28. Political and economic causes of nutritional disease
29. A perspective on Canadian nutrition

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *241* Credit Hours: *3* Vector: *1-0-3*

Title of Course: *Sports Injuries - Prevention and Rehabilitation*

Calendar Description of Course:
The course will include delineation of the role of the Sports Therapist and will study the structural and functional characteristics of the body with regard to the prevention of injury in sport. A first aid approach to atheltic injuries will be developed with practical experience in routine treatments.

Nature of Course *Lecture and Laboratory*

Prerequisites (or special instructions):

KIN. 143-3 (formerly KIN.043-3)

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? *Yearly*

Semester in which the course will first be offered? *Fall, 74*

Which of your present faculty would be available to make the proposed offering possible? *Banister, Medical Associates, Hancheroff (Trainer)*

3. Objectives of the Course

To provide basic knowledge about the care and prevention of athletic injuries particularly relevant to sports practices in high school PE programs.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*Honoraria for lectures from clinical associates*
Staff	*@ $15.00 x 10 ≈ $180*
Library	*None*
Audio Visual	*$100 - $150*
Space	*Lecture room*
Equipment	*Materials - models of body, tape, etc. ($1,000)*

5. Approval

Date: _____

_____ Department Chairman

_____ Dean

_____ Chairman, SCUS

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

Lecture Outline

1. Sports participation at early ages (dangers and contraindications.
2. Pre-requisite medical examinations and mechanism of injury (pre-competition, pre-training)

Basic Anatomy, Physiology and Type of Injury

3. Ankle
4. Knee
5. Lower Extremities
6. Internal Injuries
7. Arm, Elbow, Waist, Hand
8. Lower Back
9. Shoulders
10. Head, Neck
11. Diet
12. Hydration, electrolyte balance
13. Emergency procedures

Laboratories

1. Facilities, Equipment and Supplies
2. Immediate physical examination of injured
3. Recognition
4. First aid treatment
5. Exercise
6. Hydro
7. Ultrasound
8. Taping, weight training
9. Prevention
10 - 11 Emergency Medical Problems
   - Cardiovascular
   - Pulmonary
   - Hypothermia
   - Hypoxia

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM *(Title Change)*

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *303* Credit Hours: *3* Vector: *2-1-3*

Title of Course: *Kinanthropometry (Formerly Human Growth & Physical Development)*

Calendar Description of Course:

A study of change in bodily form and function associated with chronological age, physiological maturity in relation to genetic and environmental influences.

Nature of Course *Lecture, tutorial, lab.*

Prerequisites (or special instructions):

Students with credit for KIN.303-3 under its former title Human Growth and Development may not take this course for further credit.

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

2. Scheduling

How frequently will the course be offered? *2 X per year at least*

Semester in which the course will first be offered?

Which of your present faculty would be available to make the proposed offering possible? *Ross, new faculty appointees*

3. Objectives of the Course

To provide conceptual overview and practice of selected techniques to encourage students to become participants and witnesses in growth research

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*None*
Equipment	*None*

5. Approval

Date: _____

_____ Department Chairman

_____ Dean

_____ Chairman, SCUS

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

KINESIOLOGY 303 LECTURES

Lecture

1. Introduction - Kinesiology and subdisciplines, measurement and meaning and individuality.
2. How old is a 12 year old? Slide lecture on human variation.
3. Human variation
4. Child in sport and activity.
5. Design of growth studies. Cross sectional and longitudinal research. Saskatchewan Growth Study.
6. Distance, velocity and acceleration curves and biological and methodological influences.
7. Dimensional growth and use of geometric models to interpret growth and training phenomena. Selected application of dimensional analysis in research by Ekblom. Von Doblen. Assmussen, Astrand, Hirata. Behnke.
8. Somatotype. Historical overview, methods, implication for Kinesiology.
9. Genes, hormones and environment. Part 1. Endowment - Environment. How heredity operates.
10. Quiz 1. Lectures and labs to date. Chapters 1, 2, 6 and 21, Hebbelinck and Ross "Physique and Performance" (20 min.) Review of basic concepts (20 min.)
11. Genes, hormones and environment. Part 2. Genetic legacy. Endocrine system and hormonal activity in children, at adolescence, at birth.
12. Chemical control of growth. Nutrients, digestions, absorption, circulation, cellular events. The body's expenditures. Energy transformation and protein synthesis.
13. Growth of systems. Patterns of growth. Nervous system. Cardiovascular system. Lymphatic system. Respiratory system. Digestive system. Genito-urinary system. Endocrine system. Indicies of maturity.
14. Maturation and skeletal age. X-ray. Historical review of methods of assessment. Contemporary methods. Practical uses of skeletal maturation.
15. Maturation and skeletal age. Factors influencing rate and pattern of skeletal maturation. Maturation and physical performance. T-W technique interpretations.
16. Kinanthropometry and theory of error. Sources of systematic and random error and methods of control.
17. Body composition. Historical overview. Dissection and chemical analysis. Somatometry. Soft-tissue roentgenography. Densitometry. Hydrometry. Anthropometry. Other techniques. Influence of age, sex and nutrition during childhood and adolescence.
18. Secular trend toward earlier maturation. Review of growth velocity and maturity events. Menarche as a biological reference point. The evidence and implication.
19. Quiz 2. Lectures and Labs to date. Chapters 3, 4, 5, 7, Ross and Hebbelinck "Kinanthropometry and the Appreciation of Error of Measurement," Ross "Some Comments on Kinanthropometry and Theoretical Dimensional RElationships." (20 min) Review (20 min)

20. *Kinanthropometry and young skiers. A comprehensive view of size, shape, proportion, composition, maturation and gross function. An illustration of an approach to the study of individual differences in human development.*

21. *Standardization. Physical Anthropology and the Frankfurt and Geneva Agreements. International Biological Programme. International Committee on the standardization of Physical Fitness Tests. Recommended practices. Description of techniques.*

22. *Proportional growth assessment. An historical review of concepts including Vetruvius, da Vinci, Quetelet, Brozek, Lindegard, and Perkal.*

23. *Proportionality phantom and prototypes: S.F.U. Statagem for study of proportionality in relation to growth and performance.*

24. *Child Growth and Development characteristics and needs. Part 1.*

25. *Child Growth and Development Characteristics and needs. Part 2.*

Laboratory and Practice

1. *Landmarks, stature, infant stature, sitting height, infant crown-rump length, gluteal arch height, trachanter height R and L, pubis symphysion height, body weight, ht ÷ $\sqrt[3]{wt}$ by nomogram, ht ÷ $\sqrt[3]{wt}$ by table.*

2. *Anthropometric procedures for H-C somatotype: age in decimal fractions of years, height, weight, skinfolds: triceps, subscapular, suprailiac, medial calf, bone widths: elbows, knees, girths: flexed and tensed arms, calf (standing).*

3. *Review of H-C techniques. Somatotype photoscopic rating. H-C anthropometric procedures for derivation of somatotype. The somatochart, plotting methods, somatotype dispersion distance, somatotype dispersion index.*

4. *Somatotype classification categories. Height correction for endomprphy. Longitudinal analysis of somatotype somatochart vectors using Saskatchewan Growth Study data.*

5. *S.F.U. - U.B.C. Kinanthropometric Technique Proforma: Lengths -- check with common items from Laboratory 1 and resolve technique discrepancy. Breadths -- check with H-C elbow and knee items Laboratory 2 and resolve discrepancies.*

6. *S.F.U. - U.B.C. Kinanthropometric Technique Proforma Girths - check H-C arm items with Laboratory 2 girths lower extremities - check H-C calf items with Laboratory 2.*

7. S.F.U. - U.B.C. Kinanthropometric Technique Proforma. Skinforlds using Harpender calipers. Evaluation of Best Caliper, Lange Caliper and Malachristometro.

8. Skeletal Age. REview of bone identification, anatomical conventions, T-W method, radius, ulna, I III V metacarpals, I III V proximal phalanges, III V middle phalanges, I III V distal phanges, capitate, hamate, triquetral, lunate, navicular or scaphoid, greater multangular or trapezium, lesser multangular or trapezoid, total long bone score, total round bone score, over all score and skeletal age equivalent.

9. MID SEMESTER CHECK OF ALL LABORATORY DATA. Skeletal age rating decisions on class x-ray problem. Resolution of differences. K-W tests, sit-reach, S.F.U. - U.B.C. Kinanthropometric Proforma. Suppleness items.

10. Body volume by water displacement. Submerged vital capacity and residual volumes. On deck vital capacity and residual volumes. Calculations of density. Application of density data in percent fat formulae.

11. S.F.U. - U.B.C. Kinanthropometric Techniques Proforma. Strength items. Demonstration of CAHPER children and youth items shuttle run, flexed, arm hang, 50 yard run, 300 yard run. Demonstrations of CAHPER adult study items hand grip, standing broad jump, 50 yard run, 300 yeard run.

12. Proportionality profiles using the Phantom and comparison of proportional differences among students in class.

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM PREREQUISITE CHANGE

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *320* Credit Hours: *3* Vector: *2-1-0*

Title of Course: *Cultural Aspects of Human Movement*

Calendar Description of Course: *The cultural aspects of human motor behavior; the effects of social institutions on the expressed values of selected culture toward human motor behavior; and an examination of the pertinent aspects of our present culture which may reflect implications for the future of games, sports, dance, and other forms of physical expression.*

Nature of Course *Seminar*

Prerequisites (or special instructions):

At least 60 semester hours credit.

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? *1 per year*

Semester in which the course will first be offered? *Fall, 1974.*

Which of your present faculty would be available to make the proposed offering possible? *Iris Garland/Margaret Savage.*

3. Objectives of the Course

1. *To provoke discussion on the implications of cultural constructs on the expressed physical activity of selected societies.*
2. *To speculate on future plans for physical activity in light of current cultural change.*

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*None*
Equipment	*None*

5. Approval

Date: _____

_____ _____ _____

Department Chairman Dean Chairman, SCUS

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

KINESIOLOGY 320 - SELECTED SEMINAR TOPICS

WEEK	
1	Introduction to the course. Play and Culture.
2	Theories of Play and Classification of Games. (Huizinga and Caillois)
3	Research of Roberts and Sutton-Smith on the Cross-Cultural Analysis of Games.
4	Backgrounds Development of the Ancient Olympic Games and The Olympic Ideal.
5	Development of the Greek Theatre from song and movement.
6	Medieval Ascetism and the Mind/Body dichotomy Philosophy and attitudes toward the body.
7	Cross-Cultural Differences in Movement Expression.
8	Movement As Communication.
9	Sport As A Cultural Phenomenon.
10	Sport for All.
11	Backgrounds of Leisure. Changing Patterns of Leisure.
12	Future of Leisure and its relationship to Physical Activity.
13	Debate on the Athletic Revolution.

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM

TITLE CHANGE
DESCRIPTION CHANGE

1. Calendar Information

Department: ~~Kinesiology~~

Abbreviation Code: KIN. Course Number: 326 Credit Hours: 3 Vector: 0-0-6

Title of Course: Functional Anatomy (formerly Gross Anatomy)

Calendar Description of Course:

To study the structure of human body systematically so as to provide the basis upon which the functions of various organs and systems can be understood.

Nature of Course *Laboratory oriented course including dissection of primates.*

Prerequisites (or special instructions):

BISC *316*

Students with credit for KIN.326-3 under its former title Gross Anatomy may not take this course for further credit.

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

2. Scheduling

How frequently will the course be offered? *Fall and Spring Semesters*

Semester in which the course will first be offered? *Presently being offered.*

Which of your present faculty would be available to make the proposed offering possible? *Bhakthan*

3. Objectives of the Course

Being a core course for Kinesiology majors, the major objective is to establish a basic and fundamental knowledge of human body. It is also expected to put the foundations for understanding histology and physiology of man and mammals. As a service course to student interested in anthropology, archaeology, biology, biochemistry, criminology and premedical course.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*Adequate provision in new building.*
Equipment	*None*

5. Approval

Date: _____

_____ Department Chairman

_____ Dean

_____ Chairman, SCUS

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

KINESIOLOGY 326 SCHEDULE

WEEK	
1.	Introduction:- Classification and basic terminology
2.	The basis of structure and function, origina and development of the individual (Developmental anatomy, ontogeny and phylogeny)
3.	Organization of the body: tissues, systems and organs. The integument.
4.	General osteology and arthrology
5.	Axial and appendicular skeleton
6.	General myology, motor limits and muscle tonus
7.	The skeletal muscles and fasciae Classification of muscles Muscles of axial skeleton
8.	Mid-term examination Muscles of the upper limb Muscles of the lower limb
9.	The circulatory system General plan of cardiovascular system Heart
10.	Arterial and venous systems
11.	Respiratory and digestive systems
12.	Urinogenital system
13.	Endocrines and nervous systems Brain
14.	Nerves and sense organs

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM NO CHANGE

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *330* Credit Hours: *3* Vector: *2-0-4*

Title of Course: *Human energy metabolism*

Calendar Description of Course:
Pathways of energy flow in animals and man, and the relationship of biological energy transduction to the needs of the whole organism. Quantitative aspects of bio-energetics and adaptation to changes in energy supply and demand. Measuring techniques applied to adaptations to muscular activity and variations in food intake.

Nature of Course *SEE ATTACHED SHEET*

Prerequisites (or special instructions):

BISC 201-3

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

2. Scheduling

How frequently will the course be offered? *Annually - Spring Semester*

Semester in which the course will first be offered?

Which of your present faculty would be available to make the proposed offering possible? *Allan J. Davison*

3. Objectives of the Course

To allow understanding in a quantitative way of the observable and gross interactions of the intact human body with the environment, in terms of the exchange of energy at both the level of molecular energy exchanges and the whole organism. Methods of measurement and calculation will be emphasized.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*Normal growth*
Audio Visual	*None*
Space	*Space in new building quite adequate*
Equipment	*Normal growth*

5. Approval

Date: _____

_____ Department Chairman

_____ Dean

_____ Chairman, SCUS

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

Kines. 330-3

HUMAN ENERGY METABOLISM

Provisional Course Contents and Scope:

The course will be directed toward relating observable interactions between the whole animal and its environment, to processes at the molecular level. With the normal metabolic pathways and energetic relationships as a starting point, the course will take a quantitative approach and will emphasize an understanding of human energetics through conceptual and numerical problems. Molecular mechanisms of disease states will be emphasized. Topics will be selected according to the interests of students taking the course, with the following approximate emphasis:

The Energetics of Organ Activity:

The distribution of total energy expenditure among the activities of the various organs. Cardiac energetics. The work of rebreathing Energetics, kidney function, and muscle contraction. Molecular aspects of brain function and mental disease. Disorders of lysosome function.

Energy Metabolism of the Whole Organism:

Metabolic interrelationships. Special metabolism of individual organs. Exchange of materials with the environment, nutritional aspects. Acid-base balance. Heat exchange and temperature regulation hyperthermic and hypothermic death. Distribution of total energy expenditure among the various kinds of work: growth and synthesis, muscular activity, chemo-osmotic work, and thermodynamic inefficiency. The pathology of energy metabolism, diabetes mellitus, diseases of muscle, fever, fulminant hyperthermia.

Fundamental Energetic Relationships:

Information; organization, and entropy in living systems. Open and closed systems, the applicability of irreversible thermodynamics to living systems. Energy transduction mechanisms in mitochondria, sense receptors, membrane transport, and mechanochemical coupling in muscle. The special properties and special role of oxygen in energy metabolism. Involvement of oxygen in disease processes, free radical pathology, ageing, diseases collagen malfunction.

CONT'D . . .

Regulatory Mechanisms in Energy Metabolism:

Tissue compartmentation, rate limiting processes in the delivery of oxygen and metabolites to the sites of energy utilization. Erythrocyte metabolism and its pathology. Endocrine aspects. Adaptation to physical activity, training, cold, caloric restriction and excess food intake, the factors limiting human adaptability. Regulation of energy intake.

Emphasis will be placed on active rather than passive learning and all students will be expected to participate in planning the course, setting problems and examination questions, grading, giving oral presentations, and carrying out literature surveys.

The laboratory will consist of small projects or library research on a topic realted to those above.

KINESIOLOGY 330-3

LECTURES

1st week	2 Lectures: Review of metabolism
2nd week	2 Lectures: Review of energetics
3rd week	2 Lectures: Energy metabolism of whole organism
4th week	Lecture: Energy metabolism of individual organs Lecture: Student presentations...
5th week	Lecture: Oxygen transport and special properties Lecture: Student presentations...
6th week	Lecture: Pathology of energy metabolism: diabetes Lecture: Student presentations...
7th week	Lecture: Pathology of energy metabolism: fever and fulminant hyperthermia Lecture: Student presentations...
8th week	Lecture: Irreversible thermodynamics and open systems Lecture: Student presentations...
9th week	Lecture: Energetic adaptations to physical work Class examination: Evaluation of benefits gained from programmed text and problem sheets
10th week	Lecture: Energetics of individual organs: heart Lecture: Student presentations...
11th week	Lecture: Endocrine effects on metabolic processes Lecture: Student presentations...
12th week	Lecture: Diseases of muscle Lecture: Student presentations...
13th week	Lecture: Involvement of free radicals in disease processes
14th week	Discuss: Class meets to decide grades.

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM

APPROVED BY SENATE

1. Calendar Information

Department: *Physics*

Abbreviation Code: *PHYS* Course Number: *333* Credit Hours: *4* Vector: *2-0-3*

Title of Course: *Introduction to Instrumentation in the Life Sciences.*

Calendar Description of Course:

Introduction to the principles of analog and digital electronic circuits and their application to problems of measurement in the life sciences.

Nature of Course *Lecture and Laboratory*

Prerequisites (or special instructions):

Physics 102-3

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

2. Scheduling

How frequently will the course be offered? *Yearly*

Semester in which the course will first be offered? *74-3*

Which of your present faculty would be available to make the proposed offering possible?

Calvert, Crozier, Palmer, Nuntley, Gygax, Irwin

3. Objectives of the Course

SEE ATTACHED

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*None*
Equipment	*None*

5. Approval

Date: _____ _____ _____

Department Chairman | Dean | Chairman, SCUS

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

NEW COURSE PROPOSAL

Physics 333-4 — Introduction to Instrumentation in the Life Sciences

Vector: 2-0-3 — Prerequisite: Physics 102-3

This course is generally suitable for upper level students in Kinesiology or Biology. The aim is to provide a one semester course in which the principles of electronic instrumemtation are introduced and are applied to a variety of problems in the life sciences. Because the course has been developed at the specific request of the Kinesiology Department, it will emphasize instrumemtation related to the measurement of human function. There is no similar course currently available in the university. The only other route a student could take would involve Physics 205-2 and 331-3, and these courses would normally give no application of electronics to the life sciences.

The course will involve two lectures and one laboratory per week. The laboratory experiments will illustrate the principles developed in lectures and will involve the students in practical measurement problems on living systems.

Course Outline

WEEK	
1	Measurement of voltage, current and power.
2	Electrical shock hazards.
3	Simple resistive, capacitive and inductive circuits (transient and steady state analysis)
4	The electrical properties of living tissue.
5	Diodes and simple logic circuitry.
6	Transistors - applications as amplifiers and switches.
7	The response characteristics of simple amplifiers.
8	Potentials measured on the body surface (ECG, EEG, EMG, GSR).
9	Hazards involved in measurements on the body.
10	Other measurement techniques (impedance, ultrasound, thermal, optical, etc.)
11-14	Measurements within the body (extra-cellular and intra-cellular).

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

TITLE CHANGE
DESCRIPTION CHANGE

COURSE PROPOSAL FORM

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: KIN. Course Number: *336* Credit Hours: *3* Vector: *2-0-3*

Title of Course: *Microscopic Anatomy (Histology)*

Calendar Description of Course:

Light and electronmicroscopic study of mammalian tisses and organs with emphasis on human systems

Nature of Course *Two lectures and one laboratory per week. Preparation and study of slides*

Prerequisites (or special instructions):

KIN. 326-3 or permission of the instructor
Students with credit for KIN.316-3 cannot take KIN.336-3 for further credit.

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? *Fall and Spring*

Semester in which the course will first be offered?

Which of your present faculty would be available to make the proposed offering possible? *N.M.G. Bhakthan*

3. Objectives of the Course

To provide basic microscopic information of mammalian cell biology and organology. This course is a link between anatomy and physiology which will elucidate the structural differences with functional diversities of human tissues at submicroscopic level. A service course to biology and biochemistry majors.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*None*
Equipment	*None*

5. Approval

Date: _____ _____ _____

_____ _____ _____
Department Chairman Dean Chairman, SCUS

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

36

Lectures

1. Introduction. Scope of histology, research methods and historical development. Fundamentals of finestructure of cell organellaes and functional correrations of cell biology and life processes.

2. Epithelial tissue: types of occurrance and properties. Formation of glands and made of secretion

3. Connective tissue proper.
Specialized connective tissue. Bone and cartilage
Osteogenesis. Adult bone and bone repair

4. Blood as a tissue: Haemopeiotic tissues
Myeloid tissues

5. Muscular tissue. Types and properties
Molecular architecture of muscle and muscle contraction

6. Nervous tissue. Neuron properties and specialized types.
Blood brain barrier synapse

7. Mid term. Theory and lab.
Heart and vascular system. Tissue fluid

8. Oral histology (teeth and related structures)
Castrointestinal tract

9. Pancreas, liver and gall bladder

10. Lungs, respiratory unit. Sturctural variation.
Kidney and urinary bladder

11. Endocrine glands. Hypophysis, thyroid.
Parathyroids, Islets of Langerhans, suprarenal glands

12. Male and femal reproductive system
Fertilization and implatation.

13. The eye and ear.

The laboratory study of slides and preparation of slides start simultaneously so as to follow the lecture schedule.

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *344* Credit Hours: *3* Vector: *0-0-4*

Title of Course *Theory of Creative Movement*

Calendar Description of Course:

Application of choreographic principles to composition in creative problems. Students will explore aspects of space, rhythm and energy in individual group studies.

Nature of Course *General Education - Composition*

Prerequisites (or special instructions):

Kinesiology 144-3

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? *1 per year.*

Semester in which the course will first be offered? *Spring, 1975*

Which of your present faculty would be available to make the proposed offering possible? *Iris Garland*

3. Objectives of the Course

To apply choreographic principles to composition in creative problem solving.

To further acquaint students with current trends in modern dance.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*Arrangements underway to convert Education Bldg. for use.*
Equipment	*None*

5. Approval

Date: _____

_____	_____	_____
Department Chairman	Dean	Chairman, SCUS

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

KINESIOLOGY 344

COURSE OUTLINE

WEEK	
1	Orientation and films. Murray Louis Lecture-Demo. and Martha Graham's "Dancers World"
2	Dance History Lecture I - Early Beginnings of Modern Dance Pure Kinetics
3	Articulation of Body Parts, Joints.
4	Peripheral Movement Combined Body Parts/Joints/Periphery
5	Revelation of Space and Spatial Structures
6	Movement Contrasts - Rhythm Dance History Lecture II - The dance pioneers.
7	Movement Contrasts - Texture Dance History Lecture III - Current trends.
8	Movement Contrasts - Energy
9	Design - Strange Shape Design
10	Incorporation of an inanimate object
11	Rhythm - Shifting Accents Phrasing - the 8 measure WalRing pattern with contrasts.
12	Focus - Points in Space
13	Current Trends - Avant Garde Piece

FINAL COMPOSITION

SENATE COMMITTEE ON UNDERGRADUATE STUDIES — NO CHANGE

COURSE PROPOSAL FORM

1. Calendar Information — Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *366* Credit Hours: *3* Vector: *2-1-0*

Title of Course:

Calendar Description of Course: *Performance in situations where movement is the primary output, will be considered in terms of the limitations which are imposed on human motor behavior by the functional capacities of the central nervous system.*

Nature of Course *Lecture*

Prerequisites (or special instructions):

Psy 201 - General Experimental Psychology

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? *Yearly*

Semester in which the course will first be offered? *73-2*

Which of your present faculty would be available to make the proposed offering possible? *Montgomery*

3. Objectives of the Course *To provide sufficient theory and data to enable students to analyze task difficulty or complexity in terms of the information processing demands of the task.*

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty *None*

Staff *None*

Library *None*

Audio Visual *$100.00*

Space *None*

Equipment *None*

5. Approval

Date: _____

Department Chairman	Dean	Chairman, SCUS

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

KINESIOLOGY 366 - COURSE OUTLINE

WEEK	
1	Limitations of Human Information Processing
2	Measurement of Information
3-4	Memory Representation - Short-Term sensory Storage - Short-Term Memory - Long-Term Memory - Recoding in Memory
5-6	Attention and Organization in Memory - Attention and Storage - Imagery and Memory
7-8-9	Decision Processes and Memory Retrieval - Information Model - Logogen Model - Identification and Selection - Attention and Retrieval
10-11-12	Movement Control - Feedback Control System - Speed-Accuracy Tradeoff - Program Control of Movement - Attention and Movement Control
13	Alertness and Vigilance

SENATE COMMITTEE ON UNDERGRADUATE STUDIES NO CHANGE

COURSE PROPOSAL FORM

1. Calendar Information Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *401* Credit Hours: *4* Vector: *2-1-4*

Title of Course: *Mechanics of Human Movement.*

Calendar Description of Course:

The principles of mechanics treated in the context of human motor skills, the characteristics of a variety of human movements studied in terms of the mechanical factors involved in technique and performance, application of modern methods of analysis of human movement.

Nature of Course *2 Lectures, one tutorial, one 4 hr. lab.*

Prerequisites (or special instructions):

Physics 101-3

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? *1 semester per year*

Semester in which the course will first be offered?

Which of your present faculty would be available to make the proposed offering possible? *A.E. Chapman*

3. Objectives of the Course

To familiarize students with the mechanical laws governing human movement: to teach students how to analyse human activity on both subject and objective basis.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*None*
Equipment	*None*

5. Approval

Date: _____

_____ _____ _____

Department Chairman Dean Chairman, SCUS

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

KINESIOLOGY 401 LECTURES

Lecture	
1.	Newton's Laws
2.	Resolution of forces, types of force
3.	Equations of uniform motion
4.	Centre of mass
5.	Turning moments and couples
6.	Linear impulse
7.	Conservation and transfer of momentum
8.	Rotary motion - the application of Newton's Laws for this motion
9.	Moment of inertia as the rotary equivalent of mass
10.	Angular impulse
11.	Angular moment
12.	v, t, w as basic notation in angular motion
13.	Conservation and transfer of angular momentum
14.	Pendular motion, centre of percussion and oscillation
15.	Multi-axial rotation, nutation and precession
16.	Turns originating in the air
17.	Work and energy. Potential and kinetic energy
18.	Mechanical energy expenditure and mechanical efficiency
19.	Spin and gyroscopic action
20.	Aerodynamics
21.	Mechanical behaviour of muscle
22.	Models of muscular contraction which allow simple mathematical modelling of gross human activity.

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN* Course Number: *402* Credit Hours: *4* Vector: *2-1-4*

Title of Course: *Mechanical Properties of Tissues*

Calendar Description of Course: *A study of the mechanical behaviour of tissues of the body and relation of this behaviour to their structure and function. This course is designed to fill the gap between basic anatomical (micro and macro) structure and physiological function, with a view to assessing the effects of unusual conditions (including exercise) upon behaviour of tissues.*

Nature of Course *2 Lectures, 1 tutorial, 1 4-hour lab*

Prerequisites (or special instructions):

Kinesiology 401-4 may be taken concurrently

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? *Presently being offered.*

Semester in which the course will first be offered? 74-3

Which of your present faculty would be available to make the proposed offering possible?

3. Objectives of the Course

To bridge the gap between histology of tissues and their physiological function; to give students an understanding of the mechanical role played by tissues which have different structures and to indicate which tissues are most liable to failure under a given set of environmental conditions.

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

This is presently being offered on a seminar basis with demonstration labs. The equipment is now being used for research purposes and all that is required is approximately $100.00 for materials.

5. Approval

Date: _____

Department Chairman	Dean	Chairman, SCUS

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

Kinesiology 420 Seminar in Kinesiology

TOPIC: *Physical Properties of Tissues*

ALLOCATION OF TIME:

Lectures	*2*	*50 minutes*
Tutorials	*1*	*Groups of 4 students*
Labs		*Will take the form of demonstrations of experiments*

NATURE OF THE COURSE:

Lectures: *As this is a seminar course, students will be expected to contribute during lecture sessions. The teacher will develop a theoretical outline of the subject in question and students will be required to discuss details.*

Labs: *Will be conducted by T.A. and teacher. Students will be required to observe and write a critical review of the experiment including the theory behind the experiment.*

Tutorials: *Involve discussion of topics arising out of lectures or labs. Topics will be decided upon in lecture sessions and students are required to prepare an explanation to be given on request.*

METHOD OF ASSESSMENT OF STUDENTS:

This will be decided upon by majority vote.

The possibilities are:

1. *Oral exam*
2. *Comprehensive written exam*
3. *Marking of lab reports*
4. *Subjective assessment of the contribution made in tutorials.*

The contents of the course are in chronological order of presentation.

1. *INTROUDCTION*

The fundamental relationship

STRUCTURE FUNCTION BEHAVIOUR

PHYSICAL PROPERTIES ENVIRONMENT

will be discussed and the reasons for knowing physical properties will be emphasized. This will be the approach used throughout the course.

2. *MECHANICAL CONCEPTS*

A review of some basic mechanics will be undertaken as an introduction to the application of each concept in the human system. The concepts covered will be:

Lecture	
1-3	*Mass, weight, force, velocity, speed and acceleration in the context of dimensional equivalence for both linear and angular motion. These concepts will then be applied to the mechanisms of muscular contraction.*
4-6	*Viscous damping in muscle.*
7-12	*Strength in tendons, ligaments and bone.*
13-14	*A model of the musculo-tendonous system, developed from the above considerations.*
15-16	*Friction and resolution of forces as applied to joint mechanics.*
17-18	*Physical properties of cardiac and smooth muscle.*
19-20	*Hydrodynamics, blood flow and cardiac dynamics*
21	*Skin*
22-23	*Miscellaneous animal tissues which exhibit unusual properties.*
24-26	*Experimental techniques used in the examination of tissue.*

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM *(Title Change*, Description Change)

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *405* Credit Hours: *3* Vector: *2-1-0*

Title of Course: *Human Physiology I (formerly: Physiology of Motor Activity)*

Calendar Description of Course:

Normal and abnormal function of the cardiovascular and respiratory systems of man and their adaptations to exercise and environmental stress. Principles of human nutrition, the role of energy balance and essential nutrients in normal and athletic performance.

Nature of Course *2 lectures - 1 tutorial*

Prerequisites (or special instructions):
Students with credit for Kin. 405-3 under its former title, Physiology of Motor Activity, may not take this course for further credit.
BISC 201-3, Chem 251-3, Chem 256-2
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? *Yearly*

Semester in which the course will first be offered? *Fall, 1974*

Which of your present faculty would be available to make the proposed offering possible? *Banister, Davison, physician co-operatively*

3. Objectives of the Course

The organization and function of systems involved in respiratory gas exchange, cardiovascular dynamics, temperature regulation, substrate supply and acid-base balance in normal and pathological conditions, rest and exercise will be studied.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*An additional faculty member in medicien will take part in teaching this course.*
Staff	*None*
Library	*Normal growth*
Audio Visual	*None*
Space	*In the new building there will be adequate space*
Equipment	*Normal growth*

5. Approval

Date: _____

_____ Department Chairman

_____ Dean

_____ Chairman, SCUS

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

1.M

KINESIOLOGY 405 LECTURES

Lecture

1. General Exercise Physiology
2. General Exercise Physiology
3. Energy exchange - basal metabolism
4. Energy balance and food intake
5. Water metabolism - electrolytes
6. Vitamin - needs and action
7. Physical and mechanical aspects of respiration
8. The atmosphere and gas exchanges with lungs and blood
9. Transport of oxygen and carbon dioxide by the blood - acid-base balance
10. Control of respiration - nurogenic
11. Control of respiration - chemical
12. Interaction of physical, chemical and nervous factors in respiratory control
13. Abnormal respiration
14. Anoxia, altitude and acclimatization
15. Effects of excessive pressures of oxygen, nitrogen and carbon dioxide carbon monoxide: implications in aerospace, undersea and industrial envrionments.
16. The cardiovascular system - blood, lumph and cerebrospinal fluid
17. Regional circulation, pulmonary and micro circulation
18. The heart and electrocardiogram
19. Cardiovascular dynamics - normal and exercise
20. Cardiovascular dynamics - abnormal and exercise
21. Energetics of the circulation
22. Kidney function - Normal - rest, exercise
23. Kidney function - Abnormal - rest, exercise
24. Liver function, rest, exercise
25. Liver function, rest, exercise
26. Body temperature regulation - fluid loss and replacement in exercise

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information — Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *406* Credit Hours: *3* Vector: *2-1-0*

Title of Course: *Human Physiology II*

Calendar Description of Course:
The control systems of the human body, principles of physiological regulation. The structure and function of the central nervous system and the endocrine system. Special senses, and sensation, neurological and endocrine control mechanisms and neuroendocrine interactions.

Nature of Course *See attached page*

Prerequisites (or special instructions):

KIN. 405-3

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? *Yearly, every spring semester*

Semester in which the course will first be offered? *75-1*

Which of your present faculty would be available to make the proposed offering possible? *Bhakthan, Calvert, Montgomery, Morrison*

3. Objectives of the Course

To achieve understanding of the homeostatic and regulatory functions as they operate in the intact human body. Function and dysfunction in health and disease will be emphasized together with the adaptations which occur in response to environmental extremes and to exercise. (see appendix)

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*Additional faculty member in medicine and engineering will be available.*
Staff	*None*
Library	*Normal growth*
Audio Visual	*None*
Space	*In new building there will be adequate space*
Equipment	*Normal growth*

5. Approval

Date: _____

Department Chairman	Dean	Chairman, SCUS

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

KINESIOLOGY 406 LECTURES

Lecture	
1.	Principles of physiological control: servo-mechanisms, negative and positive feedback, oscillation
2.	Physiology of nerve and synapse
3.	Reflexes
4.	Sense receptors and sensation
5.	Sense receptors and sensation
6.	Functions of the ear
7.	Functions of the ear
8.	The afferent nervous system
9.	The cerebral cortex
10.	The cerebellum and basal ganglia
11.	The thalamus
12.	The hypothalamus
13.	The reticular activating system
14.	"Higher functions," learning, emotions, instinct
15.	Control of posture and movement
16.	Control of posutre and movement
17.	The thyroid gland
18.	Pancreatic function
19.	Adrenal medulla
20.	Adrenal cortex
21.	Parathyroid gland
22.	The hypophysis
23.	The hypophysis
24.	The gonads - ovary and testis
25.	Endocrine functions of kidneys, pineal gland, thymus and spleen
26.	Neuroendocrine interactions

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *407* Credit Hours: *3* Vector: *0-0-6*

Title of Course: *Human Physiology Laboratory*

Calendar Description of Course:

This is a laboratory course designed to provide the student with familiarity in using current methods of physiological and biomedical evaluations, in diagnosis and research including pulmonary function, cardiovascular physiology, kidney and liver function, thermal regulation, hormonal action.

Nature of Course *Laboratory*

Prerequisites (or special instructions):

Kine 405-3 (which may be taken concurrently)

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? *one time per year*

Semester in which the course will first be offered? *75-1*

Which of your present faculty would be available to make the proposed offering possible? *Bhakthan, Banister, Davison, Calvert*

3. Objectives of the Course

To give the student competence in using physiological, biochemical and biomedical techniques for investigative purposes in studying human structure and function.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None - medical faculty is being hired*
Staff	*None*
Library	*Normal growth*
Audio Visual	*Normal growth*
Space	*None*
Equipment	*Normal growth*

5. Approval

Date: _____

_____ _____ _____

Department Chairman Dean Chairman, SCUS

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

KINESIOLOGY 407 LABORATORIES

1. *Submaximal exercise testing/maximal exercise tests*
2. *Electrocardiography*
3. *Work efficiency and oxygen uptake*
4. *Acid base balance, PO_2, PCO_2, pH, standard bicarbonate*
5. *P_{50}, 2,3-DPG*
6. *Spectrophotometric Assay/Warburg procedures/Tissue hom*
7. *Small animal techniques*
8. *Blood sampling and analysis (Lactate, Pyruvate)*
9. *Blood sampling and analysis (Catecholamines)*
10. *Blood sampling and analysis (Ammonia, glutamate, glutamine)*
11. *Blood sampling and analysis (SMA/12, SGOT, cholesterol, Ban, Glucose SGPT, Triglycerids, K^+, Bilirubin)*
12. *Data collection and analysis*
13. *Environmental physiology lab, Hypoxia/Hyperoxia/Hyperbaria*

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM

1. Calendar Information

Department: ~~Kinesiology~~

Abbreviation Code: KIN. Course Number: 420 Credit Hours: 3 Vector: 3-0-0

Title of Course: Seminar - Kinesiology

Calendar Description of Course:

Seminar treatemtn of selected biological, sociological and psychological principles of man as they relate to his motor behavior covered more generally in lower division courses. In addition to intensive reading and discussion, students will ordinarily be expected to undertake individual projects under supervision, Presently the primary emphasis is on human skilled performance.

Nature of Course: 3 hour seminar

Prerequisites (or special instructions):

At least 90 semester hours of credit

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? One semester per year

Semester in which the course will first be offered? Currently being offered

Which of your present faculty would be available to make the proposed offering possible? Various

3. Objectives of the Course

To coordinate the teaching of previous semesters in treatment of some coherent topic.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	None
Staff	None
Library	None
Audio Visual	None
Space	None
Equipment	None

5. Approval

Date: _____

_____ Department Chairman

_____ Dean

_____ Chairman, SCUS

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

NO CHANGE

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

COURSE PROPOSAL FORM

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *442* Credit Hours: *3* Vector: *2-1-0*

Title of Course: *Biomedical Systems*

Calendar Description of Course:

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.

Nature of Course *Lecture and tutorial*

Prerequisites (or special instructions):

CMPT 100-3, Math 101-3, Math 152-3, KIN. 100-3

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? *Yearly*

Semester in which the course will first be offered? *74-1*

Which of your present faculty would be available to make the proposed offering possible? *Calvert*

3. Objectives of the Course

To introduce students who have some background in the life sicneces to the systems approach. Students will model a number of physiological systems (muscle, respiratory, thermal control) and simulate them on a computer.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*None*
Audio Visual	*None*
Space	*None*
Equipment	*None* — *Approx. 10 hours of computing time on the IBM-370 are required for 10 students.*

5. Approval

Date: _____

Department Chairman	Dean	Chairman, SCUS

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

KINESIOLOGY 442 Lectures

Week

1. Introduction to signals and systems:
   - Signals as functions of time
   - Periodic signals
   - Block diagrams of systems
   - Analogs, models and simulation

2. System properties - resistance

3. System properties - storage

4. Systems with combined properties

5. The transfer function

6. The impedance concept and periodic signals

7. Transients in systems

8. Systems with feedback

9. Computer simulation

10 - 14 Some physiological systems: the following systems will be studied throughout the semester. As more sophisticated tools are developed, the models of a number of these systems will be built up and improved.

Biomechanical systems - muscles
- limbs
- whole body

Human response to training - endurance
- strength
- skill

Models of the nutritional system

Homeostosis - respiratory control system
- temperature control system

Other feedback systems - eye tracking
- manual tracking
- postural control

SENATE COMMITTEE ON UNDERGRADUATE STUDIES NO CHANGE

COURSE PROPOSAL FORM

1. Calendar Information Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *466* Credit Hours: *3* Vector: *2-1-0*

Title of Course: *Acquisition of Motor Skills*

Calendar Description of Course: *Discussion of the processes underlying the acquisition of skilled responses and the development of rational principles to enhance learning.*

Nature of Course *Lecture*

Prerequisites (or special instructions):

Kinesiology 366 -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? *Yearly*

Semester in which the course will first be offered? *74-1*

Which of your present faculty would be available to make the proposed offering possible? *Montgomery*

3. Objectives of the Course

To enable students to develop appropriate learning environments based on an analysis of the capacity of the learner and on the demands of the task..

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty *None*

Staff *None*

Library *None*

Audio Visual *$100.00*

Space *None*

Equipment *None*

5. Approval

Date: _____

Department Chairman	Dean	Chairman, SCUS

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

KINESIOLOGY 466 - COURSE OUTLINE

WEEK	
1-2	*Taxonomy of Skills*
3	*Phases of Skill Learning*
4-5	*Developmental Aspects of Skill Learning*
6	*Cognitive Set and Skill Learning*
7	*Motivation*
8-9	*Stress*
10	*Feedback and Learning*
11	*Retention of Skills*
12	*Transfer of Learning*
13	*Old Age and Skill Learning*

SENATE COMMITTEE ON UNDERGRADUATE STUDIES

NEW COURSE PROPOSAL FORM

1. Calendar Information

Department: *Kinesiology*

Abbreviation Code: *KIN.* Course Number: *480* Credit Hours: *3* Vector: *2-1-3*

Title of Course: *Human Factors in Working Environments*

Calendar Description of Course:
A practical and theoretical consideration of the principles involved in the creation of optimal working conditons.

Nature of Course *2 lectures, 1 tutorial and 1 - 3 hour lab*

Prerequisites (or special instructions):
A minimum of 90 semester hours credit with not less than 45 hours credit from courses in at least three of the following: Science, Computer Sciences, Economics and Commerce, Psychology and Kinesiology

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? *1 semester per year*

Semester in which the course will first be offered? *Spring 75*

Which of your present faculty would be available to make the proposed offering possible?
A. Chapman, A. Davison, W. Ross, T. Calvert or E. Banister

Objectives of the Course

To introduce students to the factors pertinent to the design of working environments: to produce a central theme in which the various facets of kinesiological study can be coordinated; to illustrate the problems of implementing the ideal theoretical environment.

4. Budgetary and Space Requirements (for information only)

What additional resources will be required in the following areas:

Faculty	*None*
Staff	*None*
Library	*Small addition to library holdings*
Audio Visual	*None*
Space	*None*
Equipment	*$200 for dispensable materials*

5. Approval

Date: _____

_____ Department Chairman

_____ Dean

_____ Chairman, SCUS

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

KINESIOLOGY 480 LECTURES

Lectures

1. Introduction and the use of anthropometric data in the design of work spaces.
2. Biomechanical information applied to manual handling
3. Biomechanical information applied to the control of machines by man
4. Neurophysiology of fine motor control in man-maching systems
5. Human information processing, signal response, design of displays
6. Physiological response in heavy repetitive work
7. Stress in terms of: - a) fatigure and rest pauses
8. b) climate comfort - noxious environments
9. c) particular nutritional requirements
10. d) anxiety and operational overload
11. Problems of age and degenerative disease
12. Problems of measurement in the working environment
13. Implementing the ideal working environment.

NO CHANGE

COURSE NO: 496-3

COURSE NAME: Directed Study

CALENDAR DESCRIPTION:

Directed reading and literature research on topics selected in consultation with the supervising instructor. This course cannot be repeated for additional credit or taken concurrently with Kines. 498-3.

FACULTY AVAILABLE TO TEACH COURSE:

All Faculty Members

NO CHANGE

COURSE NO: 498-3

COURSE NAME: Undergraduate Research

CALENDAR DESCRIPTION:

Directed study and research selected in consultation with the supervising instructor leading to the preparation of an Honors research paper in Kineslology. This course cannot be repeated for additional credit or taken concurrently with Klnes. 496-3.

Prerequisite: Consent of Chairman.

FACULTY AVAILABLE TO TEACH COURSE:

All Faculty Members