

## SIMON FRASER UNIVERSITY

S.78-155

## MEMORANDUM

To..... Senate	From..... N.R. Reilly, Chairman Senate Committee on Undergraduate Studies
Subject..... Changes in Biophysics Program Necessitated by Changes in the Physics Program.	Date..... 15 November 1978

Action taken by the Senate Committee on Undergraduate Studies at its meeting on November 14 gives rise to the following motion:

MOTION

That Senate approve and recommend approval to the Board of Governors the proposed changes in the Biophysics program as outlined below and detailed in S78-155 .

- (a) PHYS 344-3 may be substituted for CHEM 261-3
- (b) MATH 154-3, 155-3 may be substituted for MATH 151-3, 152-3
- (c) Addition of PHYS 131-2, 233-2; Deletion of PHYS 231-3
- (d) Replacements: PHYS 384-3 replaces PHYS 382-4  
PHYS 345-3 replaces PHYS 341-4  
PHYS 331-3 replaces PHYS 334-4  
PHYS 385-3 replaces PHYS 381-4  
PHYS 415-3 replaces PHYS 412-4
- (e) Prerequisite changes:  
PHYS 443-3 - Biophysics Laboratory  
PHYS 482-3 - Physics of Biological Membranes and  
Membrane Models  
PHYS 483-3 - Topics in Mathematical Biophysics

*Norman R. Reilly*  
N.R. Reilly

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# SIMON FRASER UNIVERSITY

## MEMORANDUM

To..... H.M. Evans, Registrar	From..... Dr. J.M. Webster,
..... Registrar's Office	..... Dean of Science
Subject..... Curriculum Changes - Biophysics	Date..... 1978 11 16
..... Major and Honours Programmes	

The Biophysics Major and Honours degree programmes are affected by the proposed revision of the Physics upper division curriculum and by the revision of the lower division Physics Laboratory course curriculum. To adjust these programmes to the revised Physics courses the Faculty of Science approved the following changes to the existing programmes as set out on pp. 385-389 of the 1978-79 calendar.

### Lower Division Required Courses

#### Changes:

- 1) MATH 154-3 and 155-3, Calculus I and II for the Biological Sciences may be offered instead of MATH 151-3 and 152-3, Calculus I and Calculus II.
- 2) PHYS 231-3, Introductory Physics Lab I has been deleted from the Physics curriculum. The Physics Laboratory requirements will be PHYS 131-2, General Physics Laboratory and PHYS 233-2, Introductory Physics Lab A.
- 3) CHEM 261-3, Physical Chemistry I. PHYS 344-3, Thermal Physics may be taken instead of CHEM 261-3.

The lower division requirements for Major and Honours programmes should therefore be:

TOTAL 59 or 62 semester hours (See note (a).)

BISC 101-4, 102-4, 201-3, 202-3

CHEM 104-3, 105-3, 115-2, 251-3, 252-3,  
256-2, 261-3 (or PHYS 344-3)

MATH 151-3, 152-3, (or MATH 154-3, 155-3)  
232-3, 253-4

PHYS 120-3, 121-3, (or PHYS 101-3, 102-3)  
131-2, 211-3, 221-3, 233-2.

### Upper Division Required Courses

#### Changes:

The following courses have been deleted from the upper division Physics curriculum. For the Biophysics

programmes, the courses which replace them are listed alongside:-

Old Physics CoursesNew Physics Courses

PHYS 334-4	Introduction to Electronics	PHYS 331-3	Electronics Laboratory
PHYS 341-4	Thermal and Statistical Physics	PHYS 345-3	Statistical Physics
PHYS 381-4	Modern Physics	PHYS 385-3	Quantum Physics
PHYS 382-4	Mathematical Physics	PHYS 384-3	Method of Theoretical Physics I
PHYS 412-4	Quantum Mechanics	PHYS 415-3	Quantum Mechanics

The upper division requirements for the Major programme should therefore be:

TOTAL 33 - 37 semester hours

BICH 301-3 (or BISC 301-3), 403-3

BISC 405-3, 481-3

MATH 310-3

CHEM 362-3 or PHYS 345-3<sup>(b)</sup>

PHYS 331-3 (or 333-4), 345-3<sup>(b)</sup> (or CHEM 362-3), 385-3, 433-3, 482-3, 483-3.

Notes

- (a) Students not having the necessary Grade XII high school prerequisites will be required to take additional first year courses to obtain entry into the program.
- (b) PHYS 345-3 The requirement for PHYS 344-3 as a prerequisite can be waived with permission of department if CHEM 261-3 has already been taken.
- (c) In exceptional cases Biophysics Honours students may substitute MATH 420-4 in place of PHYS 384-3 with the permission of the Biophysics Programme Committee.

The upper division requirements for the Honours programme should therefore be:

BICH 301-3 (or BISC 301-3) 403-3, 413-2

BISC 302-3, 305-3 (or 347-3) 405-3, 481-3.

MATH 310-3

PHYS 331-3 (or 333-4) 345-3<sup>(b)</sup>(or CHEM 362-3) 384-3<sup>(c)</sup> 385-3, 415-3, 433-3, 482-3, 483-3.

Notes - same as for Major programme.

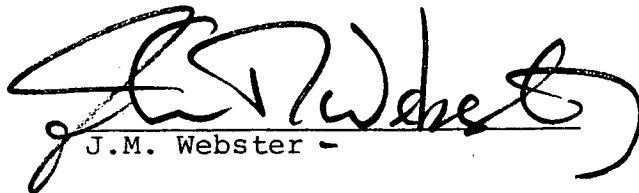
The following advising lists for upper division elective courses have likewise been amended to reflect the Physics upper division changes. The lists which have changed are given below in these revised versions:

Major Programme: Theoretical and Physical Aspects of Biophysics

PHYS 355-3	Optics
PHYS 384-3	Methods of Theoretical Physics I
PHYS 415-3	Quantum Mechanics
PHYS 325-3	Relativity & Electromagnetism
MATH 312-4	Multidimensional Calculus
MATH 361-3	Mechanics of Deformable Media
MATH 413-4	Ordinary Differential Equations

Honours Programme: Theoretical and Physical Aspects of Biophysics

PHYS 355-3	Optics
PHYS 325-3	Relativity & Electromagnetism
NUSC 485-3	Particle Physics (or NUSC 442-3 Properties of Nuclear Matter)
MATH 312-4	Multidimensional Calculus
MATH 361-3	Mechanics of Deformable Media
MATH 413-3	Ordinary Differential Equations
MATH 414-4	Partial Differential Equations
MATH 431-4	Algebra I

  
J.M. Webster -

JMW/mgj