

# MEMORANDUM

**TO: Ms Karen Roche  
Secretary of Senate**

**FROM: Dr. Rhonda Koster  
Chair, Senate Undergraduate Studies Committee**

**SUBJECT: Report of Senate Undergraduate Studies Committee – Pt 2**

**DATE: 21 January 2009**

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## ITEMS REFERRED FROM SENATE MEETING #2008-9 OF DECEMBER 5, 2008

The Senate Undergraduate Studies Committee met on January 20, 2009 to review the calendar changes referred from Senate Meeting #2008-9 of December 5, 2008, item 4 and makes the following additional recommendations:

### 1. Faculty of Science and Environmental Studies

#### **Item (d) HBSc and BSc Bioinformatics**

The Committee recommends that Senate approve the new programs, HBSc and four-year BSc (Bioinformatics Major), with revisions.

The introductory paragraph should be expanded to read:

“Bioinformatics is an interdisciplinary course of study with emphasis on the integrated use of tools from mathematics, computer science, biology, chemistry and physics to the scientific understanding of biological systems. In essence, it is the application of information technology to the field of biology, and in particular, molecular biology. Bioinformatics entails the creation and advancement of databases, algorithms, computational and statistical techniques, and theory to solve formal and practical problems arising from the management and analysis of biological data.”

Under the Programs title, add “non-entry” to the four-year BSc in the first paragraph. A list of Core Courses (Attachment 1) should be added to indicate the required courses on which the major average is calculated. The sentence “All course choices in fourth year must be approved by the program coordinator” should be added to the end of the first paragraph in the four-year BSc also. The courses, Bioinformatics 3711 – Bioinformatics and Bioinformatics 4191 – Special Topics in Biological Chemistry, should be cross-calendared with Chemistry 3711 and Chemistry 4191.

#### **Item (e) Bioinformatics and Biological Chemistry**

The Committee recommends that the proposed new courses and program change in Chemistry be approved with revisions. The course, Chemistry 3711 – Bioinformatics, should be cross-calendared with Bioinformatics 3711 (and Bioinformatics will be “parent” of the course) when the Bioinformatics programs are approved and hours of instruction revised from 1-2 to 2-4 in the winter term. As well, Chemistry 4191 – Special Topics in Biological Chemistry, should be cross-calendared with Bioinformatics 4191 when the Bioinformatics programs are approved.

  
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Dr. Rhonda Koster, Chair

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### BIOINFORMATICS CORE COURSES

**The major average in Bioinformatics will be calculated on all required Core Courses of the HBSc or four-year BSc.**

Bioinformatics 3711	Bioinformatics
either Bioinformatics 4191 (ST)	Special Topic in Biological Chemistry
or Physics 3511	Biological Physics
either Bioinformatics 4501	Senior Project
or Bioinformatics 4111	Research Seminars
and Bioinformatics 4901	Honours Thesis
Biology 1110	Animal Biology
Biology 2171	Genetics
Biology 2230	Cell Biology
Biology 2711	Biology of Microorganisms
Biology 2910	Laboratory Biology
Biology 3135	Molecular Genetics
Biology 3330	Molecular Biology of Development
Chemistry 1110	Modern Chemistry I
Chemistry 1130	Modern Chemistry II
Chemistry 2211	Organic Chemistry I
Chemistry 2231	Organic Chemistry II
Chemistry 2411	Physical Chemistry I
Chemistry 3251	Biochemistry I
Chemistry 3271	Biochemistry II
Chemistry 4710	Advanced Research Methodology
Computer Science 1411	Computer Programming I
Computer Science 1431	Computer Programming II
Computer Science 2412	Data Structures
Computer Science 2477	Object Oriented Programming
Computer Science 3413	Database Management Systems
Computer Science 4411	Programming Languages
Mathematics 1180	Calculus
Mathematics 2111	Differential Equations
Mathematics 2255	Linear Algebra I
Mathematics 2331	Introduction to Mathematical Probability
Mathematics 2333	Introduction to Mathematical Statistics
Physics 1101	Introductory Physics
Physics 2331	Modern Physics I