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MEMORANDUM

ATTENTION	Senate	**DATE**	May 3, 2013
FROM	Gordon Myers, Chair	**PAGES**	1/1
	Senate Committee on		
	Undergraduate Studies		
RE:	Faculty of Science (SCUS 13-25)		

For information:

Acting under delegated authority at its meeting of May 2, 2013, SCUS approved the following curriculum revisions effective Spring 2014:

1. Department of Mathematics (SCUS 13-25b)

   (i) Requirement changes to the Operations Research Major and Honours Programs

2. Department of Molecular Biology and Biochemistry (SCUS 13-25c)

   (ii) Requirement changes to the Major in Molecular Biology and Biochemistry

3. Department of Physics (SCUS 13-25d)

   (i) Description and prerequisite change to PHYS 231

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MEMO

**Department of
Mathematics**

LADISLAV STACHO
Chair, Undergraduate Studies
Committee

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ATTENTION Dr. George Agnes
              **Faculty of Science Undergraduate Curriculum
Committee**

**FROM   Ladislav Stacho, Chair, Undergraduate Studies
Committee**

RE Calendar Changes

DATE 18 March 2013

Please find enclosed the following documents relating to undergraduate curriculum changes approved by Mathematics to be considered at the next Faculty of Science Undergraduate Curriculum Committee meeting.

Item I:
Changes to the list of Table I courses in the Operations Research Major and Honours Programs (Remove STAT 400, STAT 402, BUEC 433, and add STAT 475, STAT 485, ECON 435.)

Item II:
   a) **Remove the Table III course list in the Operations Research Honours Program, and**

   b) **Clean up the text directly preceding Table III in the Operations Research Honours Program**

Contact: Ms. Dale Yamaura, Manager, Academic and Administrative Services

Voice: 2-3799; Email: math_manager@sfu.ca

Summary of Changes

Item I:
Changes to the list of Table I courses in the Operations Research Major and Honours Programs (Remove STAT 400, STAT 402, BUEC 433, and add STAT 475, STAT 485, ECON 435.)

Justification: This change reflects the changes from Department of Statistics courses to be offered (SCUS 12-21c; e.g. course restructuring by the Department of Statistics). This also reflects that BUEC 433 is no longer offered regularly, although the course exists.

From (current description- Operations Research Major and Honours Programs):

(Items which are underlined will be deleted from the Table)

and at least two additional courses from Table I below

ACMA 445-3 Loss Models: Estimation and Selection*
BUEC 433-5 Forecasting in Business and Economics+
STAT 390-3 Selected Topics in Probability and Statistics
STAT 400-3 Data Analysis
STAT 402-3 Generalized Linear and Nonlinear Modelling
STAT 410-3 Statistical Analysis of Sample Surveys
STAT 430-3 Statistical Design and Analysis of Experiments
STAT 460-3 Bayesian Statistics
STAT 490-3 Selected Topics in Probability and Statistics

*students must meet the entry requirements for the actuarial science program to enroll in this course
+see for prerequisites

To (new description- Operations Research Major and Honours Programs):

(Items which are underlined have been added to the Table)

and at least two additional courses from Table I below

ACMA 445-3 Loss Models: Estimation and Selection*
ECON 435-5 Econometric Methods †
STAT 390-3 Selected Topics in Probability and Statistics

STAT 410-3 Statistical Analysis of Sample Surveys
STAT 430-3 Statistical Design and Analysis of Experiments
STAT 460-3 Bayesian Statistics
<u>STAT 475-3 Applied Discrete Data Analysis</u>
<u>STAT 485-3 Applied Time Series Analysis</u>
STAT 490-3 Selected Topics in Probability and Statistics

*students must meet the entry requirements for the actuarial science
program to enrol in this course
†see BUEC courses for prerequisites

Item II:
   a) **Remove the Table III course list in the Operations Research Honors Program, and**
   b) **Clean up the text directly preceding Table III (change from four 400 division courses to two 400 division courses) in the Operations Research Honours Program**

Justification:

(a) Most of the courses listed in the table are leftover from the discontinued Industrial Mathematics program that has been replaced by the Operations research program, or are already required outside this table.

(b) The current information was incorrectly interpreted by students to mean that eight 400 division courses are required for the Operations Research Honours Program.

From (current description- Operations Research Honours Program):

(Items which are underlined will be deleted)

To complete the required 48 upper division units, students complete additional Table III courses (see list below), of which at least four courses must be at the 400 division. One upper division MATH course that is not shown in Table III may be substituted.

- CMPT 305-3 Computer Simulation and Modelling
- CMPT 307-3 Data Structures and Algorithms
- CMPT 361-3 Introduction to Computer Graphics
- CMPT 405-3 Design and Analysis of Computing Algorithms
- CMPT 461-3 Advanced Computer Graphics
- MACM 316-3 Numerical Analysis I
- MACM 401-3 Introduction to Computational Algebra
- MACM 409-3 Numerical Linear Algebra
- MACM 416-3 Numerical Analysis II
- MACM 442-3 Cryptography
- MATH 310-3 Introduction to Ordinary Differential Equations
- MATH 314-3 Boundary Value Problems
- MATH 322-3 Complex Variables
- MATH 338-3 Advanced Linear Algebra
- MATH 342-3 Elementary Number Theory

- MATH 343-3 Applied Discrete Mathematics
- MATH 345-3 Introduction to Graph Theory
- MATH 348-3 Probability Models in Operations Research
- MATH 418-3 Partial Differential Equations
- MATH 438-3 Linear Algebra
- MATH 443-3 Combinatorial Theory
- MATH 445-3 Graph Theory
- MATH 447-4 Coding Theory
- MATH 461-3 Continuous Mathematical Models
- MATH 462-3 Fluid Dynamics
- MATH 467-3 Dynamical Systems
- MATH 470-3 Variational Calculus
- PHYS 395-3 Computational Physics

To (new description- Operations Research Honours Program):

(Items which are underlined have been added)

To complete the required 48 upper division units, students complete additional coursework, of which at least two courses must be 400-level MATH or MACM courses with the possibility of substituting a 400-level course from another department subject to advisor approval. Courses used to fulfill this upper division requirement cannot be used to satisfy the interdisciplinary requirement. All courses pertaining to the required 48 upper division units must be approved by the program advisor in the Department of Mathematics.

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Program Change Form

Program: Major in Molecular Biology and Biochemistry

From:

One of:
CMPT 102-3 Intro to Scientific Computer Program
CMPT 110-3 Programming in Visual Basic
CMPT 120-3 Intro to Computing Science & Program I

To:

One of:
CMPT 102-3 Intro to Scientific Computer Program
CMPT 110-3 Programming in Visual Basic
CMPT 120-3 Intro to Computing Science & Program I
CMPT 130-3 Intro to Computer **Programming I**
CMPT 126-3 Intro to Computer Sci /Programming

Rationale:

The addition of CMPT130 offers an additional basic intro computer course option for MBB students. The addition of CMPT126, a more advanced introductory CMPT course (it's an accelerated and rigorous version of CMPT 120 and CMPT 125 and offers an option for more advanced undergraduates to both complete their MBB CMPT requirement and to lay a stronger foundation if they choose to take more CMPT courses.

Effective date: ~~Fall, 2013 (1137)~~ SPRING 2014

Approvals

Chair, Department/School	Chair, Faculty Curriculum Committee	Chair, SCUS
Date	Date	Date

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EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

☐ Course number   ☐ Credit   ☐ Title   ☐ Description   ■ Prerequisite   ☐ Course deletion   ☐ Learning Outcomes

Indicate number of hours for: Lecture _____   Seminar_____   Tutorial _____   Lab __3__

FROM
Course Subject/Number___Phys 231___

TO
Course Subject/Number _____

Credits ___3___

Credits_____

TITLE
(1) LONG title for calendar and schedule, no more than 100 characters including spaces and punctuation.

FROM: **TO:**

PHYS 231-3 Physics Laboratory II

(2) SHORT title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

FROM: **TO:**

DESCRIPTION
FROM:

Introductory physics laboratory with experiments chosen from mechanics, heat, optics, electricity, magnetism, properties of matter, atomic and nuclear physics, along with lectures on the use of computers for data acquisition and data analysis in the physics laboratory.

DESCRIPTION
TO:

Introductory physics laboratory with experiments chosen from mechanics, heat, optics, electricity, magnetism, properties of matter, atomic and nuclear physics, along with lectures on the use of computers for data acquisition and data analysis in the physics laboratory.

PREREQUISITE
Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

FROM: Prerequisite: PHYS 141 or 131 or 130. Students who have successfully completed PHYS 234 may not receive additional credit for this course. Quantitative.

PREREQUISITE

TO: Prerequisite: PHYS 141 or 131 or 130. Students who have successfully completed PHYS 234 may not receive additional credit for this course. Recommended co-requisite: PHYS 255. Quantitative.

LEARNING OUTCOMES

RATIONALE

Student comments have indicated that taking 255 concurrently with 231 (or beforehand) helps with the material in 231. This effect is not strong enough to change the list of pre-requisites, but it is helpful to students to add a recommendation.

Effective term and year ~~Fall 2013~~ SPRING 2014