

SIMON FRASER UNIVERSITY

MEMORANDUM

To: Senate

From: Rolf Mathewes, Vice- Chair 
Senate Committee on Undergraduate Studies

Subject: Faculty of Science
(SCUS reference 04-27, 04-28)

Date: January 20, 2005

FOR INFORMATION

Acting under delegated authority, at the January 18, 2005 meeting, SCUS approved curriculum revisions in the Faculty of Science:

- a) Earth Sciences
 - i. Change in prerequisite for EASC 201
- b) Mathematics
 - i. Change of title, description and prerequisite for MATH 461
 - ii. Changes to the list of beginning level requirements
 - iii. Changes in Computing requirements for the Mathematical Physics Honors program and a change to the title for the listed course MATH 461
 - iv. Changes to Applied Mathematics Major & Honors programs
- c) Molecular Biology and Biochemistry
 - i. New course: MBB 496-6 Joint Honors Undergraduate Directed Readings and Research
 - ii. Change of prerequisite for MBB 308, 402, 422
- d) Physics
 - i. Changes to Physics Minor program
 - ii. Change of vector for PHYS 190

- e) Statistics & Actuarial Science
 - i. Changes to Major, Minor and Honors programs
 - ii. Change of prerequisite for ACMA 310, 315, 335, 490
 - iii. Change to Management and Systems Science Major requirements
- f) List of Certified Quantitative (Q) & Breadth (B) Courses

Any Senator wishing to consult the full report of curriculum revisions should contact Bobbie Grant, Senate Assistant at 291-3168 or email bgrant@sfu.ca

Faculty of Science

The BSG has recommended for certification as Designated Breadth the following courses put forward by Science programs:

Course Number	Course Title	Breadth Type
BISC 100-3	Introduction to Biology	B-Sci
CHEM 110-3	Introductory Chemistry	B-Sci
CHEM 111-4	Introductory Chemistry and Laboratory	B-Sci
CHEM 120-3	General Chemistry I	B-Sci
CHEM 121-3	General Chemistry and Laboratory I	B-Sci
EASC 101-3	Physical Geology	B-Sci
EASC 103-3	The Rise and Fall of the Dinosaurs	B-Sci
EVSC 200-3	Introduction to Environmental Science	B-Sci
PHYS 190-3	Introduction to Astronomy	B-Sci
SCI 300-3	Science and Its Impact on Society	B-Sci
STAT 100-3	Chance and Data Analysis	B-Sci

The QSG has recommended for certification as 'Q' the following courses put forward by Science programs:

Course Number	Course Title
ACMA 310-3	Mathematics of Compound Interest
ACMA 315-3	Credibility Theory and Loss Distributions
ACMA 320-3	Actuarial Mathematics I
ACMA 335-3	Risk Theory
ACMA 425-3	Actuarial Mathematics II
ACMA 445-3	Survival Models
CHEM 110-3	Introductory Chemistry
CHEM 111-4	Introductory Chemistry and Laboratory
CHEM 120-3	General Chemistry I
CHEM 121-4	General Chemistry and Laboratory I
CHEM 122-2	General Chemistry II
CHEM 126-2	General Chemistry Laboratory II
CHEM 215-4	Introduction to Analytical Chemistry
CHEM 230-3	Inorganic Chemistry
CHEM 236-2	Inorganic Chemistry Lab I
CHEM 260-4	Atoms, Molecules, Spectroscopy
CHEM 281-4	Organic Chemistry I

CHEM 282-2	Organic Chemistry II
CHEM 286-2	Organic Chemistry Laboratory II
CHEM 316-4	Introductory Instrumental Analysis
CHEM 317-2	Analytical Environmental Chemistry
CHEM 332-3	The Chemistry of Transition Metals
CHEM 333-3	Inorganic Chemistry of Biological Processes
CHEM 336-2	Advanced Inorganic Chemistry
CHEM 340-3	Materials Chemistry
CHEM 360-3	Thermodynamics and Chemical Kinetics
CHEM 366-2	Physical Chemistry Laboratory I
CHEM 367-2	Physical Chemistry Laboratory II
CHEM 371-3	Chemistry of the Aqueous Environment
CHEM 372-3	Chemistry of the Atmospheric Environment
CHEM 381-4	Intermediate Organic Chemistry
CHEM 432-3	Organometallic Chemistry
CHEM 440-3	Solid State Materials Chemistry
CHEM 442-3	Polymeric Materials Chemistry
CHEM 444-3	Organic Materials Chemistry
CHEM 450-3	Physical Organic Chemistry
CHEM 452-3	Bio-organic Chemistry
CHEM 455-3	Synthetic Organic Chemistry
CHEM 460-3	Advanced Physical Chemistry
CHEM 462-3	Molecular Spectroscopy
CHEM 464-3	Quantum Chemistry
CHEM 465-3	Electrochemistry
EASC 207-3	Introduction to Applied Geophysics
EASC 208-3	Introduction to Geochemistry
EASC 304-3	Hydrogeology
EASC 307-3	Applied Geophysics
EASC 317-3	Global Geophysics
EASC 410-3	Groundwater Geochemistry and Contaminant Transport
EASC 416-3	Field Methods in Hydrogeology
EASC 417-3	Seismology
MACM 101-3	Discrete Mathematics I
MACM 201-3	Discrete Mathematics II
MACM 202-4	Mathematical Modeling and Computation
MACM 300-3	Introduction to Formal Languages and Automata
MACM 316-3	Numerical Analysis I
MACM 401-3	Introduction to Computer Algebra
MACM 416-3	Numerical Analysis II
MATH 113-3	Euclidean Geometry
MATH 151-3	Calculus I
MATH 152-3	Calculus II
MATH 154-3	Calculus I for the Biological Sciences
MATH 155-3	Calculus II for the Biological Sciences
MATH 157-3	Calculus for the Social Sciences I

MATH 158-3	Calculus for the Social Sciences II
MATH 190-4	Principles of Mathematics for Teachers
MATH 232-3	Elementary Linear Algebra
MATH 242-3	Introduction to Analysis I
MATH 251-3	Calculus III
MATH 252-3	Vector Calculus
MATH 308-3	Linear Optimization
MATH 309-3	Continuous Optimization
MATH 310-3	Introduction to Ordinary Differential Equations
MATH 313-3	Differential Geometry
MATH 314-3	Boundary Value Problems
MATH 320-3	Introduction to Analysis II
MATH 322-3	Complex Variables
MATH 332-3	Introduction to Applied Algebraic Systems
MATH 339-3	Groups and Symmetry
MATH 342-3	Elementary Number Theory
MATH 343-3	Applied Discrete Mathematics
MATH 345-3	Introduction to Graph Theory
MATH 380-3	History of Mathematics
MATH 418-3	Partial Differential Equations
MATH 419-3	Linear Analysis
MATH 424-3	Applications of Complex Analysis
MATH 425-3	Real Analysis
MATH 438-3	Linear Algebra
MATH 439-3	Algebraic Systems
MATH 440-3	Galois Theory
MATH 443-3	Combinational Theory
MATH 445-3	Graph Theory
MATH 447-3	Coding Theory
MATH 461-3	Mechanics of Deformable Media
MATH 462-3	Fluid Dynamics
MATH 467-3	Dynamical Systems
MATH 470-3	Variational Calculus
NUSC 341-3	Introduction to Radiochemistry
NUSC 342-3	Introduction to Nuclear Science
NUSC 344-3	Nucleosynthesis and Distribution of the Elements
NUSC 346-3	Radiochemistry Laboratory
NUSC 485-3	Particle Physics
PHYS 101-3	General Physics I
PHYS 102-3	General Physics II
PHYS 120-3	Mechanics and Modern Physics
PHYS 121-3	Optics, Electricity and Magnetism
PHYS 125-3	Mechanics and Spatial Relativity
PHYS 126-3	Electricity, Magnetism and Light
PHYS 130-2	General Physics Laboratory
PHYS 131-2	Physics Laboratory I
PHYS 211-3	Intermediate Mechanics

PHYS 221-3	Intermediate Electricity and Magnetism
PHYS 231-3	Physics Laboratory II
PHYS 233-2	Physics Laboratory III
PHYS 285-3	Introduction to Relativity and Quantum Mechanics
PHYS 324-3	Electromagnetics
PHYS 326-3	Electronics and Instrumentation
PHYS 331-3	Electronics Laboratory
PHYS 332-3	Intermediate Laboratory
PHYS 344-3	Thermal Physics
PHYS 346-3	Energy and Environment
PHYS 355-3	Optics
PHYS 365-3	Semiconductor Device Physics
PHYS 380-3	Introduction to Subatomic Physics
PHYS 384-3	Methods of Theoretical Physics I
PHYS 385-3	Quantum Physics
PHYS 390-3	Introduction to Astrophysics
PHYS 395-3	Computational Physics
PHYS 413-3	Advanced Mechanics
PHYS 415-3	Quantum Mechanics
PHYS 425-3	Electromagnetic Theory
PHYS 430-5	Digital Electronics and Interfacing
PHYS 431-4	Advanced Physics Lab I
PHYS 445-3	Statistical Physics
PHYS 455-3	Applied Optics
PHYS 465-3	Solid State Physics
PHYS 484-3	Nonlinear Physics
PHYS 490-3	General Relativity and Gravitation
STAT 100-3	Chance and Data Analysis
STAT 101-3	Introduction to Statistics
STAT 201-3	Statistics for the Life Sciences
STAT 203-3	Introduction to Statistics for Social Sciences
STAT 270-3	Introduction to Probability and Statistics
STAT 285-3	Intermediate Probability and Statistics
STAT 302-3	Analysis of Experimental and Observational Data
STAT 330-3	Introduction to Mathematical Statistics
STAT 350-3	Linear Models in Applied Statistics
STAT 380-3	Introduction to Stochastic Processes
STAT 400-3	Data Analysis
STAT 402-3	Generalized Linear and Nonlinear Modelling
STAT 403-3	Intermediate Sampling and Experimental Design
STAT 410-3	Statistical Analysis of Sample Surveys
STAT 430-3	Statistical Design and Analysis of Experiments
STAT 450-3	Statistical Theory
STAT 460-3	Bayesian Statistics