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MEMORANDUM

ATTENTION	Senate	DATE	November 6, 2015
FROM	Gordon Myers, Chair	PAGES	1/1
	Senate Committee on		
	Undergraduate Studies		
RE:	Faculty of Science (REVISED SCUS 15-12e)		

A handwritten signature in blue ink, appearing to read "Gordon Myers", is written over the signature line of the memorandum.

For information:

Acting under delegated authority at its meeting of November 5, 2015 SCUS approved the following curriculum revision effective Summer 2016.

1. Department of Chemistry (REVISED SCUS 15-12e)

- (i) Upper and Lower division requirement changes to the Chemistry Major Program



FACULTY OF SCIENCE
Dean of Science

SCUS REVISED 15-12e

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MEMORANDUM

ATTENTION	Senate Committee for Undergraduate Studies, SFU	DATE	October 15, 2015
FROM	Carl Lowenberger, Chair, Science UCC		
RE:	Submission of Undergraduate Curriculum Business from the Faculty of Science for inclusion on the Agenda of the November 2015 SCUS Meeting		

Chemistry

Motion 1: Upper and Lower requirements changes to the Chemistry Major Program

The above-mentioned motion was deferred originally from the May SCUS meeting as proper calendar language needed to be reflected in the document.

Changes to Chemistry Major Calendar Entry

These minor edits include alterations to reflect:

- The addition of new PHYS 1st year labs PHYS 132/133 to replace PHYS 131
- Research course credit restrictions on satisfying upper-division CHEM requirements
- Inclusion of MATH 240 as an alternative course for MATH 232
- Removal of outdated language regarding breadth and education courses ([as approved by FacSci](#))

Additions are shown as underlined text and deletions are shown as strikethroughs. All changes are **highlighted**.

Department of Chemistry | Faculty of Science
Simon Fraser University Calendar | Spring 2015

Chemistry Major

BACHELOR OF SCIENCE

Students intending to specialize in Chemistry

The point at which a high school or regional college student enters the chemistry program is governed by the student's subject knowledge. CHEM 110 and 111 are not required for the BSc degree but are available as electives to those with no chemistry knowledge or who are starting from BC high school chemistry 11. Those with BC high school chemistry 12 (or equivalent) normally start with CHEM 121. Major and honours students must fulfil program requirements below. Whether majoring in chemistry or not, students may not enrol in any CHEM course for which a D grade was obtained in any prerequisite.

Students are encouraged to complete the Department of Physics' standard stream (PHYS 120, 121, [132, 133](#)) or advanced stream (PHYS 125, 126, [132, 133](#)). Students may also choose to complete the studio physics stream (PHYS 140, 141). Students who complete the life sciences stream (PHYS 101, 102, 130, with a minimum B grade), which has a BISC 100 or 101 or 102 corequisite, should have sufficient preparation for the major program.

The following statements clarify and standardize the minimum requirements that a student must fulfil to complete a chemistry course as well as those to pass a combination lecture/laboratory course.

Course non-completion

The following will constitute non-completion of the required material in a chemistry

course. not writing the final examination or its equivalent

not completing the required minimum number of experiments in a laboratory course or the laboratory component of a course

not completing additional or alternative material specified by the instructor

The letter grade N will be awarded in these cases.

Students must pass both the lecture and laboratory components individually to obtain a passing grade in lecture/laboratory combination courses.

Program Requirements

Students complete 120 units, as specified below.

Mathematics and physics courses should be completed as early as possible.

For an example of a typical program schedule, visit <http://www.sfu.ca/chemistry/undergraduate.html#courseSequence>

Lower Division Requirements

Students complete 56---57 units, including all of

CHEM 121 --- General Chemistry and Laboratory I (4)
CHEM 122 --- General Chemistry II (2)
CHEM 126 --- General Chemistry Laboratory II (2)
CHEM 215 --- Introduction to Analytical Chemistry (4)
CHEM 230 --- Inorganic Chemistry (3)
CHEM 236W --- Inorganic Chemistry Laboratory (3)
CHEM 260 --- Atoms, Molecules, Spectroscopy (4)
CHEM 266 --- Physical Chemistry Laboratory I (2)
CHEM 281 --- Organic Chemistry I (4)
CHEM 283 --- Organic Chemistry IIb (3)
CHEM 286 --- Organic Chemistry Laboratory II (2)
MATH 152 --- Calculus II (3)
~~MATH 232 --- Applied Linear Algebra (3)~~
MATH 251 --- Calculus III (3)
MBB 222 --- Molecular Biology and Biochemistry (3)

and one of

MATH 150 --- Calculus I with Review (4)
MATH 151 --- Calculus I (3)

and one of

MATH 232 --- Applied Linear Algebra (3)
MATH 240 --- Algebra I - Linear Algebra (3)

and all of

PHYS 120 --- Mechanics and Modern Physics (3)
PHYS 121 --- Optics, Electricity and Magnetism (3)
~~PHYS 131 --- Physics Laboratory I (2)~~
PHYS 132 --- Physics Laboratory I (1)
PHYS 133 --- Physics Laboratory II (1)

or all of

PHYS 125 --- Mechanics and Special Relativity (3)
PHYS 126 --- Electricity, Magnetism and Light (3)
~~PHYS 131 --- Physics Laboratory I (2)~~
PHYS 132 --- Physics Laboratory I (1)
PHYS 133 --- Physics Laboratory II (1)

or both of

PHYS 140 --- Studio Physics --- Mechanics and Modern Physics (4)

PHYS 141 --- Studio Physics --- Optics, Electricity and Magnetism (4)

Upper Division Requirement

Students complete 34 units, including all of

CHEM 316 --- Introductory Instrumental Analysis (4)

CHEM 332 --- The Chemistry of Transition Metals (3)

CHEM 336 --- Advanced Inorganic Chemistry Laboratory (2)

CHEM 360 --- Thermodynamics and Chemical Kinetics (3)

CHEM 366W --- Physical Chemistry Laboratory II (3)

CHEM 380 --- Chemical and Instrumental Methods of Identification of Organic Compounds (4)

and an additional 15 units of upper division credit in CHEM, MBB or NUSC courses (maximum of three units MBB and three units NUSC), including at least six units of 400 division CHEM courses. **A maximum of 5 units from the research courses CHEM 481, 483 and 484 may be used to satisfy the aforementioned 15 units of upper division credit and six units of 400 division CHEM courses. A maximum of 5 credits from CHEM 481, 483 and 484 may be used to satisfy these upper division CHEM requirements.**

Electives

In addition to the above, students complete 29---30 elective units,

including courses chosen to fulfil the WQB requirements

upper division courses chosen from any faculty **(but excluding EDUC 401---407)** to total a minimum of 44 upper division units

electives at any division from any faculty to provide 120 units as is required for the degree.

Specialization in physical or theoretical chemistry requires more mathematics and physics courses than specified above, and a computer programming course.

Faculty of Science Major Requirements

In addition to the above requirements, students must also satisfy Faculty of Science major program requirements to complete a total of 120 units including

additional upper division units to total a minimum of 44 upper division units **(excluding EDUC 401 to 406)** **students who were enrolled at Simon Fraser University between fall 1991 and summer 2006 are required to complete a minimum of 12 units in subjects outside the Faculty of Science (excluding EDUC 401 to 406) including six units minimum to be completed in the Faculty of Arts and Social Sciences**

Writing, Quantitative, and Breadth Requirements

Students admitted to Simon Fraser University beginning in the fall 2006 term must meet writing, quantitative and breadth requirements as part of any degree program they may undertake. See **Writing, Quantitative, and Breadth Requirements** for university---wide information.

WQB Graduation Requirements

A GRADE OF C- OR BETTER IS REQUIRED TO EARN W, Q OR B CREDIT