Chemistry major / Chemistry first teachable – Computer Studies second teachable

The order and timing of courses may be changed subject to availability and prerequisite requirements.

Program details:

YEAR 1
Semester 1 (15 credit hours)
BIOL 1010U Biology I
CHEM 1010U Chemistry I
CSCI 1000U Scientific Computing Tools
MATH 1000U Introductory Calculus or
MATH 1010U Calculus I*
PHY 1010U Physics I or
PHY 1030U Introductory Physics*

Semester 2 (15 credit hours)
BIOL 1020U Biology II
CHEM 1020U Chemistry II
EDUC 2900U Introduction to Teaching and Field Experience I (10 days)
MATH 1020U Calculus II
PHY 1020U Physics II

*All students who have completed grade 12U Advanced Functions and Introductory Calculus or 12U Calculus and Vectors should take MATH 1010U and PHY 1010U. Students without one of these high school courses or equivalent are directed to take MATH 1000U and PHY 1030U.

YEAR 2
Semester 1 (15 credit hours)
CHEM 2010U Structure and Bonding
CHEM 2020U Introduction to Organic Chemistry
CHEM 2030U Analytical Chemistry
MATH 2050U Linear Algebra
STAT 2010U Statistics and Probability for Physical Science

Semester 2 (18 credit hours)
BIOL 2040U Biochemistry
CHEM 2040U Thermodynamics and Kinetics
CHEM 2120U Organic Chemistry
CSCI 1030U Introduction to Computer Science
EDUC 2901U Field Experience II (15 days)
EDUC 3752U Learning and Adolescent Development

YEAR 3
Semester 1 (18 credit hours)
CHEM 3220U Structure Determination of Organic Molecules
CHEM 3510U Inorganic Chemistry I
CHEM 3530U Instrumental Analytical Chemistry I
CSCI 2110U Discrete Structures in Computing Science
EDUC 4902U Field Experience III (20 days)
One non-science elective

Semester 2 (15 credit hours)
CHEM 3040U Fundamentals of Physical Chemistry

CHEM 3120U Advanced Organic Chemistry
CHEM 3520U Inorganic Chemistry II
CHEM 3540U Instrumental Analytical Chemistry II
EDUC 3612U Contemporary Educational Practice

YEAR 4
Semester 1 (15 credit hours)
CHEM 4040U Physical Chemistry
CHEM 4050U Environmental Chemistry
CHEM 4430U Directed Studies in Chemistry or
CHEM 4410U Thesis Project in Chemistry I
CSCI 2010U Principles of Computer Science
CSCI 2050U Computer Architecture I

Semester 2 (15 credit hours)
CHEM 4010U Industrial Chemistry
CHEM 4060U Chemical and Molecular Spectroscopy
CHEM 4420U Thesis Project in Chemistry II or
One science elective
CSCI 2020U Software Systems Development and Integration
One non-science elective

Note 1: Directed studies and thesis project courses
Students who meet the requirements will take BIOL 4430U Directed Studies in Biology in year 4. BIOL 4430U may be taken in either semester by interchanging with an elective. Students may optionally apply to do a two course sequence consisting of BIOL 4410U and BIOL 4420U Thesis Project in Biology I and II in year 4, in place of BIOL 4430U plus one elective. Opportunities for this option are limited; students must apply to the Science 4th year thesis coordinator by April 30 following completion of the first three years of the program.

YEAR 5
Semester 1 (15.75 credit hours)
CURS 3610U Math Workshops
CURS 4000U I/S Core Curriculum Methods I
CURS 4120U I/S Curriculum Studies I: Chemistry
CURS 4160U I/S Curriculum Studies I: Computer Studies
EDUC 3511U I/S Learning with ICT
EDUC 4381U I/S Analysis and Management of Classroom Behaviour
EDUC 4900U Field Experience and Practica I
One required education elective**
One optional education elective**

Semester 2 (15.0 credit hours)
CURS 3611U I/S Science and Technology Camp
CURS 4001U I/S Core Curriculum Methods II
CURS 4121U I/S Curriculum Studies II: Chemistry
CURS 4161U I/S Curriculum Studies II: Computer Studies
EDUC 3801U I/S Individual Needs and Diversity
EDUC 3911U I/S Information Literacy
EDUC 4382U I/S Analysis and management of Classroom Behaviour II
EDUC 4901U Field Experience and Practica II
Two optional education electives**

** **Education Electives:** Students in Year 5 of the Concurrent Education program are required to take one education elective in Semester 1. Students may take a maximum of three education electives in

Year 5. A limit of two electives may be taken in any single term. Note: not all listed electives will be available every year. Students may take their education electives prior to Year 5 only if they have completed Year 2 requirements and have a GPA of 2.7.