VANCOUVER ISLAND UNIVERSITY

Bachelor of Science, Major in Chemistry, Minor in Mathematics
Program Grid

Note: This program grid is provided for guidance only. Degree completion is based on courses completed successfully and is subject to all applicable requirements and procedures in effect. Students should consult the B.Sc. Degree Advisor to confirm program requirements for their chosen degree.

Course Number	Course Name	Credits	Upper-Level Credits	Notes
English 1	100-level English I	3		1
English 2	100-level English II	3		1
MATH 100 or 121	Calculus I	3		
MATH 101 or 122	Calculus II	3		
Non-Science 100-499	Non-Science Elective I	3		2
Non-Science 100-499	Non-Science Elective II	3		2
CHEM 140	Chemistry Fundamentals I	4		
CHEM 141 or 142	Chemistry Fundamentals II	4		
PHYS 111 or 121	Physics I	4		
PHYS 112 or 122	Physics II	4		
BIOL 201	Principles of Biochemistry I	3		
CHEM 212	Environmental Chemical Analysis	3		
CHEM 213	Practical Spectroscopy	3		
CHEM 222	Inorganic Chemistry	3		
CHEM 231	Organic Chemistry I	3		
CHEM 232	Organic Chemistry II	3		
CHEM 241	Physical Chemistry	3		
CHEM 300	Green Chemistry and Toxicology	3	3	
CHEM 312	Principles Instrumental Analysis	3	3	
CHEM 341	Reaction Kinetics and Mechanisms	3	3	
CHEM 351	Integrated Organic / Inorganic Laboratory	3	3	
CHEM 352	Integrated Physical Laboratory	3	3	
CHEM 400	Emerging Topics & Professional Practice	3	3	
CHEM 412	Advanced Topics in Analytical Chemistry	3	3	
CHEM 441	Bonding, Structure, and Properties	3	3	
CHEM 300-499 Option	Specialization Course I	3	3	3
CHEM 300-499 Option	Specialization Course II	3	3	3
CHEM 300-499 Option	Specialization Course III	3	3	3
MATH 123	Logic and Foundations	3		
MATH 221	Calculus III	3		
MATH 241	Linear Algebra	3		
MATH 211 or 254	Statistics I	3		
MATH 222, 223 or 251	200-Level Mathematics Elective	3		
MATH 300-499	Upper-Level Mathematics Elective I	3	3	4
MATH 300-499	Upper-Level Mathematics Elective II	3	3	4
MATH 300-499	Upper-Level Mathematics Elective III	3	3	4
MATH 300-499	Upper-Level Mathematics Elective IV	3	3	4
MATH 300-499	Upper-Level Mathematics Elective V	3	3	4
MATH 300-499	Upper-Level Mathematics Elective VI	3	3	4
Elective 100-499	General Elective I	3		5
	TOTAL:	124	42	

See notes on the next page /…

NOTES:

1. The Degree English Requirement can be met as follows:
    - Two of ENGL 115, 125, 135, 204, or INTR 100; or,
    - LBST 111 and 112.

2. Non-Science Electives can be any courses outside of the Science discipline numbered 100-499. The following courses may not be counted to meet this requirement, although they may be counted as general electives:
    - Any course beginning with the following discipline identifiers: AQUA, ASTR, BIOL, CHEM, CSCI, ENGC, ENGE, ENGM, ENGR, FISH, FRST, GEOL, MATH, PHYS, RMOT, QUME, and SCIE.
    - Anthropology: ANTH 111, 213, 214, 341B, 342, 343, 344, 350, 351, 352, 353 361, 401, 430, 449, 460.
    - Geography: GEOG 211, 212, 221, 226, 228, 326, 328, 372, 373, 374, 376, 428.
    - Psychology: PSYC 204, 205, 300A, 300B, 301, 302, 305, 315, 316, 318, 319, 323, 324, 345, 365, 400, 415, 419, 445, 490, 491, 498A.
    - Physical Education: PHED 201, 220, 301, 302, 400, 401.

3. The Chemistry Specialization consists of 9 credits (3 courses) chosen from <u>one</u> of the following options:
    - Biological Chemistry: CHEM 323, 334, 335, 432, or 433.
    - Environmental Chemistry: CHEM 301, 302, 325, 401, or 431.

    Students without a Chemistry Specialization require 9 credits of Upper-Level CHEM Electives.

    Additional Experiential Learning Opportunities (credits taken as electives):
    - CHEM 380 - (Independent Work Experience in Chemistry) (3 credits)
    - CHEM 390 - (Field Studies in Chemistry) (3 credits)
    - CHEM 491 - (Undergraduate Research Project) (6 credits)

4. Upper-Level Mathematics Electives can be any MATH course numbered 300-499.

5. General Electives can be courses in any discipline numbered 100-499.