VANCOUVER ISLAND UNIVERSITY

Bachelor of Science, Major in Chemistry, Minor in Computer Science
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	4		
MATH 101 or 122	Calculus II	4		
Non-Science 100-499	Non-Science Elective I	3		2
Non-Science 100-499	Non-Science Elective II	3		2
CHEM 140A and 140L	Chemistry Fundamentals I	4		
CHEM 141A or 142A, and 142L	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	4		
CHEM 222	Inorganic Chemistry	4		
CHEM 231	Organic Chemistry I	4		
CHEM 232	Organic Chemistry II	4		
CHEM 242	Thermodynamics and Kinetics	4		
MATH 200-299	200-Level Mathematics Elective	3		3
CHEM 312	Principles Instrumental Analysis	4	4	
CHEM 342	Interactions of Light and Matter	3	3	
CHEM 351	Integrated Organic / Inorganic Laboratory	4	4	
CHEM 352	Integrated Physical Laboratory	4	4	
CHEM 400	Emerging Topics & Professional Practice	3	3	
CHEM 412A and 412L	Metabolomics and Proteomics	4	4	
CHEM 442	Comp. Tools for Molecular Discovery	3	3	
CHEM 300-499 Option	Specialization Course I	3	3	4
CHEM 300-499 Option	Specialization Course II	3	3	4
CHEM 300-499 Option	Specialization Course III	3	3	4
CSCI 159	Computer Science I	4		
CSCI 161	Computer Science II	4		
CSCI 162	Topics in Computer Science	3		
MATH 123	Logic and Foundations	3		
CSCI 260	Data Structures	3		
CSCI 265	Software Engineering	3		
CSCI 300-499	Upper-Level Comp. Sci. Elective I	3	3	5
CSCI 300-499	Upper-Level Comp. Sci. Elective II	3	3	5
CSCI 300-499	Upper-Level Comp. Sci. Elective III	3	3	5
CSCI 300-499	Upper-Level Comp. Sci. Elective IV	3	3	5
	TOTAL:	128	46	

See notes on the next page /…

NOTES:

1. The Degree English Requirement can be met as follows:
    - Two of ENGL 115 (or 117), 125 (or 127), 135, 204, or an INTR course that includes a ENGL course exemption; 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, 426, 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.
    - Kinesiology: KIN 201, 220, 301, 302, 400, 401.

3. The 200-Level Mathematics Elective can be chosen from MATH 141, 203, 211, 221, 241, or 254.

4. 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)

5. Upper-Level Computer Science Electives can be any CSCI course numbered 300-499.
    - Students should check upper-level course prerequisites to guide second-year course selection. Some upper-level CSCI courses may require completion of a greater number of second-year courses than is required by the Minor.