VANCOUVER ISLAND UNIVERSITY

Bachelor of Science, Major in Biology, Major in Chemistry
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	3		1
English 2	100-level English	3		1
MATH 121	Calculus I	4		
MATH 122	Calculus II	4		
Non-Science 100-499	Non-Science Elective I	3		2
Non-Science 100-499	Non-Science Elective II	3		2
BIOL 121A and 121L	Introductory Zoology	4		
BIOL 123A and 123L	Intro. Cellular & Molecular Biology	4		
CHEM 140A and 140L	Chemistry Fundamentals I	4		
CHEM 141A or 142A, and 142L	Chemistry Fundamentals II	4		
PHYS 111	Physics I	4		
PHYS 112	Physics II	4		
BIOL 200	Introduction to Cell Biology	3		
BIOL 201	Principles of Biochemistry I	3		
BIOL 202	Ecology	3		
BIOL 210	Microbiology I	4		
BIOL 212	Genetics	3		
BIOL 223	Botany	3		
CHEM 212	Environmental Chemical Analysis	4		
CHEM 213	Practical Spectroscopy	3		
CHEM 222	Inorganic Chemistry	4		
CHEM 231	Organic Chemistry I	4		
CHEM 232	Organic Chemistry II	4		
CHEM 241	Physical Chemistry	4		
MATH 203	Biometrics	3		
BIOL 305	Animal Physiology	3	3	
BIOL 402	Evolution	3	3	
BIOL 403	Current Topics in Biology	3	3	
BIOL 300-499	Upper-Level Biology Elective I	3	3	3
BIOL 300-499	Upper-Level Biology Elective II	3	3	3
BIOL 300-499	Upper-Level Biology Elective III	3	3	3
BIOL 300-499	Upper-Level Biology Elective IV	3	3	3
BIOL 300-499	Upper-Level Biology Elective V	3	3	3
BIOL 300-499	Upper-Level Biology Elective VI	3	3	3
BIOL 300-499	Upper-Level Biology Elective VII	3	3	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	4	4	
CHEM 352	Integrated Physical Laboratory	4	4	
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	Upper-Level Chemistry Elective I	3	3	4
CHEM 300-499	Upper-Level Chemistry Elective II	3	3	4
CHEM 300-499	Upper-Level Chemistry Elective III	3	3	4
	TOTAL:	154	65	

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. Upper-Level Biology Electives can be any BIOL course numbered 300-499.
    - Up to 12 credits from following courses may be counted towards this requirement: FISH 322, FISH 324, FRST 328, FRST 351, FRST 352, GEOG 328, GEOG 373, RMOT 306, RMOT 357, RMOT 400, and RMOT 401.
    - Students have the option to complete a research project in their final year: BIOL 490 (3 credits) or 491 (6 credits). Consult the Chair of the Biology Department.

4. Upper-Level Chemistry Electives can be any CHEM course numbered 300-499. 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)