



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 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
BIOL 121	Introductory Zoology	4		
BIOL 123	Intro. Cellular & Molecular Biology	4		
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 200	Introduction to Cell Biology	3		
BIOL 201	Principles of Biochemistry I	3		
BIOL 202	Ecology	3		
BIOL 210	Microbiology I	3		
BIOL 212	Genetics	3		
BIOL 223	Botany	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		
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 Option	Specialization Course I	3	3	3
BIOL 300-499 Option	Specialization Course II	3	3	3
BIOL 300-499 Option	Specialization Course III	3	3	3
BIOL 300-499	Upper-Level Biology Elective I	3	3	4
BIOL 300-499	Upper-Level Biology Elective II	3	3	4
BIOL 300-499	Upper-Level Biology Elective III	3	3	4
BIOL 300-499	Upper-Level Biology Elective IV	3	3	4
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	5
CHEM 300-499 Option	Specialization Course II	3	3	5
CHEM 300-499 Option	Specialization Course III	3	3	5
	TOTAL:	144	63	

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 Biological Specialization consists of 9 credits (3 courses) chosen from one of the following options:
 - Microbial Biology: BIOL 332, 334, 336, 337, 432 or 436.
 - Molecular and Cellular Biology: BIOL 341, 342, 435, 443, 445 or 465.
 - Aquatic and Terrestrial Ecology: BIOL 310, 315, 320, 322, 351 or 360.
4. Upper-Level Biology Electives can be any BIOL course numbered 300-499.
 - Students have the option to complete a research project in their final year: BIOL 490 (3 credits) or 491 (6 credits).
 - Students interested in taking BIOL 490 or 491 should consult the Chair of the Biology Department.
5. The Chemistry Specialization consists of 9 credits (3 courses) chosen from one 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)