



VANCOUVER ISLAND  
UNIVERSITY

Bachelor of Science, Major in Chemistry, Minor in Geography  
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 121	Calculus I	3		
MATH 122	Calculus II	3		
Non-Science 100-499	Non-Science Elective I	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		
MATH 203, 211, or 254	Statistics	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	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	4
CHEM 300-499 Option	Specialization Course II	3	3	4
CHEM 300-499 Option	Specialization Course III	3	3	4
GEOG 101	Environmental Geography	3		5
GEOG 211	Atmospheric Environments	3		
GEOG 212	Earth Environments	3		
GEOG 228	Maps and Mapping	3		5
GEOG 328	Geographic Information Systems	3	3	
GEOG 372, 373, 374 or 376	Upper-Level Geography Option I	3	3	6
GEOG 372, 373, 374 or 376	Upper-Level Geography Option II	3	3	6
GEOG 372, 373, 374 or 376	Upper-Level Geography Option III	3	3	6
GEOG 300-499	Upper-Level Geography Elective	3	3	7
GEOG 300-499	Upper-Level Geography Elective	3	3	7
Elective 100-499	General Elective VII	3		8
Elective 100-499	General Elective VIII	3		8
<b>TOTAL:</b>		<b>124</b>	<b>51</b>	

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 equivalent; 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.
  - Kinesiology: KIN 201, 220, 301, 302, 400, 401.
3. The 200-Level Statistics course can be chosen from MATH 203, 211, or 254.
4. 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)
5. GEOG 101 will be applied towards the Non-Science Elective Requirement (6 credits) for the Bachelor of Science degree and therefore 3 more credits (i.e., Non-Science Elective I) are required to meet this requirement.
  6. For the Upper-Level Geography Option, three courses must be chosen among GEOG 372, 373, 374, or 376.
  7. Upper-Level Geography Electives can be any GEOG course numbered 300-499.
  8. General Electives can be courses in any discipline numbered 100-499.