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Science and Technology Programs

Geoscience (BSc)

Location Offered:

Nanaimo

Credential:

Bachelor Degree

Options:

Major

Program Length:

4 Years

The Program

The BSc Major in Geoscience is a four-year program that will provide students with a broad foundation in the geosciences, drawing upon the expertise and experience of the instructors within the Earth Science and Geography departments at VIU. The program will provide students with an understanding of core geoscience concepts such as the scientific method, Earth systems, the age of Earth, water cycling on Earth, evolution of life on Earth, natural resources and energy, natural disasters and human impacts on Earth environments. The program will give students the opportunity to apply their knowledge with hands-on activities both in the lab and in the field, and will direct students towards independent research and enquiry. Student will be expected to achieve a high-quality of written and communication skills during their geoscience studies. One of the main themes of the BSc Major is "Environmental Geoscience", as this reflects the expertise of the Earth Science and Geography departments, VIU's location on the west coast of British Columbia, and a demand for this expertise in the job market.

Program Outline

Requirements for a Major

Students must complete 124 credits including the Institutional B.Sc. Degree Requirements, the Degree English Requirements, and courses listed below.

Year 1	Credits
CHEM 140 - (Chemistry Fundamentals I)	4
CHEM 141 - (Chemistry Fundamentals II) or, CHEM 142 - (Chemistry Fundamentals II)	4
GEOG 101 - (Environmental Geography)	3
GEOL 111 - (Discovering Planet Earth)	4
GEOL 112 - (Understanding Earth's History)	4
GEOL 115 - (Laboratory and Field Studies in Earth Science)	3
MATH 100 - (Calculus for Engineering and Physical Sciences I) or, MATH 121 - (Calculus I)	3
MATH 101 - (Calculus for Engineering and Physical Sciences II) or, MATH 122 - (Calculus II)	3
Degree English Requirements	6

Note: Most core, specialization, and elective courses have prerequisites. Students should check prerequisites carefully, and consult the Bachelor of Science Degree Advisor when planning their program.

Year 2*	Credits
GEOG 211 - (Atmospheric Environments)	3
GEOG 212 - (Earth Environments)	3
GEOG 228 - (Spatial Analysis)	3
GEOL 200 - (Mineralogy)	3
GEOL 201 - (Sedimentology and Stratigraphy)	3
GEOL 202 - (Earth Structures)	3
GEOL 206** - (Geological Field Methods and Mapping)	3
MATH 211 - (Statistics I)	3

* For students wishing to satisfy the APEGBC's academic requirements for registration as a Professional Geoscientist it is recommended that PHYS 111 or PHYS 121 be taken as an elective in Year 2.

** GEOL 206 is offered during intersession in April and May.

Years 3 and 4	Credits
Minimum of <i>thirty</i> credits of Geography, Earth Science, and Geoscience courses as follows:	
GEOG 328 - (Geographic Information Systems)	3
GEOL 300 - (Igneous and Metamorphic Petrology)	3
9 credits of upper-level GEOL* courses 300 level and above.	9
Select 9 GEOG credits from the following list:	
GEOG 326** - (Remote Sensing)	
GEOG 372 - (Climatology)	
GEOG 373 - (Biogeography)	9
GEOG 374 - (Hydrology)	
GEOG 376 - (Geomorphology)	
GEOG 428** - (GIS Applications)	
6 credits of upper-level Geoscience*** electives 300-level and above.	6

* GEOL 480, 490, and 491 cannot be used to meet the upper-level GEOL requirements.

** Only one of GEOG 326 and GEOG 428 can be used to meet the upper-level GEOG requirements.

*** The 6 credits of upper-level Geoscience electives may be chosen from GEOG 326, GEOG 372, GEOG 373, GEOG 374, GEOG 376, or GEOG 428; or 300-level or higher GEOL courses including: GEOL 390, GEOL 480, GEOL 490, and GEOL 491.

Admission Requirements

- General admission requirements apply.
- A minimum "B" grade in either Pre-calculus 12 or Principles of Mathematics 12.
- A minimum "C+" grade in Chemistry 12. (Some seats for students who have only completed Chemistry 11 with a minimum "C+" grade may be available).

Notes on Admission

- Physics 12, or a minimum "C+" in one of Principles of Physics 11 or Applications of Physics 12 is recommended, but not required. **Note: Students who wish to**

satisfy the academic requirements of APEGBC for registration as a Professional Geoscientist will need these Physics prerequisites to take PHYS 111 or PHYS 121.

- Earth Science 11 and/or Geology 12 are also recommended, but not required.

Career Opportunities

A student who graduates with a BSc Major in Geoscience from VIU can anticipate a wide range of potential career opportunities, both here in Canada and around the world. This might include employment in: environmental monitoring or protection, water resources, mineral exploration, mining or forest industries, and/or engineering-related fields. Students completing the BSc Major in Geoscience can use their courses for registration as a Professional Geoscientist (P.Geo) with the Association of Professional Engineers and Geoscientists of BC (APEGBC). Students should carefully plan their courses (particularly in their second year) to ensure that they can satisfy APEGBC's academic requirements for registration. APEGBC is a self regulating body and may change these academic requirements over time. For more details on programs go the VIU Earth Science website.

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