

Bachelor of Arts, Majors and Minors

CHEMISTRY

A Minor is offered

Note: VIU also offers a Bachelor of Science, Minor in Chemistry.

General Description

The Bachelor of Arts, Minor in Chemistry is designed to be taken as part of a Double Minor or as a Major and Minor combination. The program introduces students to the traditional sub-disciplines of Chemistry, with a particular emphasis on analytical and environmental chemistry. The course selection is designed to maintain broad appeal and relevance to a variety of career objectives, including teaching environmental consulting, and academic research. Students will gain an appreciation for the role of chemistry in many aspects of modern chemical instrumentation and techniques.

The curriculum has been designed to provide students with the knowledge that will enable them to pursue careers and further academic opportunities in environmental science, and to teach chemistry at the secondary school level. It also provides hands-on experience with techniques and instrumentation used in analytical chemistry.

Research

VIU has recently established a state-of-the-art Applied Environmental Research Laboratory (AERL), where pure and applied research in the environmental sciences is conducted in collaboration with public and private partners. The lab is fully equipped for foliar, soil and water analysis by both traditional and emerging methods. Some of the instrumentation is incorporated into upper-level chemistry lab courses. In the final year, students have an option to complete a one-semester directed research project, under the supervision of a faculty member. The AERL also provides year-round employment opportunities for senior students to assist faculty with environmental sampling, chemical analysis, method development, and data interpretation.

Some research projects that have recently been conducted at the AERL include:

- The development of a novel technique for the rapid detection of volatile contaminants in air and drinking water;
- an investigation of the effects of variable retention logging practices on the water chemistry of small coastal streams;
- geochemical analysis of Gulf Island groundwater samples;
- bioaccumulation of heavy metals in marine mammal parasites;
- the role of photochemical and microbial processes in the biodegradation of woodwaste leachates;
- and an assessment of land use impacts on water quality in the Englishman River watershed.

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Requirements for a Minor

Students must fulfill all the Institutional B.A. degree requirements, including Degree English Requirements and courses listed below:

Years 1 and 2: Successful completion of CHEM 121/122 or CHEM 111/112 or CHEM 111/122*; and *four* courses chosen from CHEM 213, 221, 222, 231, 232, BIOL 201 or PHYS 215.

* Students should check upper-level course prerequisites to guide them in second-year course choices. It should be noted that success in some chemistry courses as well as PHYS 215 requires an understanding of calculus, and thus these courses have calculus as a prerequisite.

Years 3 and 4 : Successful completion of 18 credits (6 courses) of upper level chemistry courses chosen from CHEM 301, 302, 311, 312, 321, 322, 331, 332, and CHEM 490.

Notes:

1. CHEM 490 requires 9 upper-level chemistry credits and permission of a faculty supervisor; recommended in the fourth year.
2. Not all courses are offered every year. Please check the current course timetable to find out which courses are currently being offered.

February 23, 2009