



## How far do you want to go?

Since the dawn of history, human civilization has built its progress in science and technology on a foundation of international exchange. Consider the abacus and the sundial, scientific instruments invented by the ancient Sumerians. Learning of these tools, the Chinese produced the first record of a solar eclipse in 2137 BC. Or, take two products of first-century Chinese technology, the compass and gunpowder. These crossed back through the Middle East to totally transform Medieval Europe in the 13<sup>th</sup> century.

Travel itself produces momentous discovery. From 1799-1804 the German naturalist, Alexander von Humboldt, explored Latin America, producing the first scientific account of the New World. Humboldt's findings inspired Charles Darwin to make his voyage on HMS Beagle. The 5<sup>th</sup> Solvay Conference in Brussels called on leading physicists to meet and resolve their opposing views on the structure of matter and its interaction with light. The consensus hammered out that week forms the foundation of present day quantum mechanics.

Scientists draw ideas and inspiration from other scientists. The greater the diversity of perspective, the more original and far-reaching this synthesis becomes. The world now has become more complex and more connected. Information abounds. But the mere existence of information does not define progress. Every scientific advance builds on a network of communicators sharing information to produce understanding and synthesize novel ideas. Like Chinese astronomers four thousand years ago, we must look outside our boundaries to truly see something new.

With this in mind, the University of British Columbia has joined with a select set of European universities to launch the International Three-Two Program in Chemistry.

## Features of the International Three-Two Program in Chemistry

The Three-Two Program in Chemistry offers an outstanding opportunity for UBC science students attuned to the value of an undergraduate educational experience with a significant international dimension.

Students enrolled in the Three-Two Program form a cohort who begin by learning the fundamentals of chemistry in years one through three at UBC. Each student in this cohort then chooses from any one of a half-dozen or more top European universities as a place to complete their final undergraduate year, taking advanced courses in chemistry of their own choosing as UBC exchange students. The language of instruction for these courses in all cases will be English.

Three-Two students stay to complete a second year abroad. The European university recognizes this program of study as satisfying the requirements for the award of its MSc, in accordance with the Bologna Accords.

In a nutshell, a Three-Two student spends five years to earn two degrees, a UBC BSc and a European MSc. What's more, the student pays tuition only during the four years of the UBC component of study toward the BSc.

Thus, for a small investment of time and no additional cost, the student builds a résumé listing two degrees, one of which is international - providing invaluable currency in a subsequent job applications, or efforts to gain admission to PhD or postgraduate professional programs. Every Three-Two student will also gain the experience, seasoning, world view, and undoubtedly the new language fluency afforded by an extended period of living abroad.

Three-Two students at UBC will identify themselves as a cohort from the first day of university study. They will receive regular advising from Chemistry faculty members, intended to help them stay on track, and teach them to recognize the full diversity of opportunities that exist for building a career in science.

The Three-Two program must maintain high admission standards. The program has limited capacity determined by the number of places available at our partner institutions in Europe. We also must reserve a few places every year for students already at UBC who have demonstrated excellence in their studies together with a keen interest to join the program.

We imagine that the Three-Two Program in Chemistry will appeal to students and their families for its attention to rigour and educational value. In this sense, we think that it parallels and complements the Science One program.

The major features of the Three-Two Program in Chemistry for a UBC student include:

- The program begins for a UBC student with three years of foundational study in Vancouver. Then, spending two years abroad, the student from Vancouver completes the requirements remaining for a BSc degree from UBC and earn an MSc degree from the host institution.
- The International Three-Two Program in Chemistry takes advantage of new course alignments in Europe according to the Bologna Accord, and at UBC as a result of a revised curriculum in Chemistry.
- In Europe, students complete the equivalent of a North American BSc in the first three years. Years four and five consist of elective graduate courses and research leading to the MSc degree.

## Implementation

- The University will recruit students for enrollment in Chemistry's International Three-Two Program from high school.
- The International Three-Two students will form an identifiable cohort on the first day of their first year at UBC. These students will take their first-year chemistry course as part of the Coordinated Science Program, or in Science One if they so choose.
- After the first semester of the third year, a UBC evaluation committee will consider the academic records of Three-Two students electing to study abroad. The Department of Chemistry will present those who have demonstrated excellence in their mastery of coursework in chemistry and related subjects to corresponding host institutions with its strong recommendations for admission.
- The program will accept a student enrolled at UBC in the first year and beyond for International Three-Two study, provided the capacity exists and the student meets the standards required.
- The UBC Curriculum Committee will review host institution program-specific courses offered to Three-Two students.
- A UBC student making normal progress will complete the requirements for a major's or honour's BSc in Chemistry in the fourth year of the program. The student will pay no tuition for the fifth year.

## Advantages

- The International Three-Two Program in Chemistry offers an attractive, five-year fast track leading to a UBC Bachelor's degree in chemistry coupled with a highly recognizable European Master's Degree.
- The Three-Two Program offers educational benefits that reward ambitious students, positioning them advantageously for admission to graduate and professional schools beyond the MSc level.
- This program will draw upon the large number of excellent students who elect to study chemistry at UBC, assuring that their first five years of university education includes a substantial international component, and providing the perspective necessary for them to make informed decisions about educational and career choices going forward.