



JOINT PROGRAM

## APPLIED CHEMISTRY

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**The Applied Chemistry program, offered jointly by The University of Winnipeg and Red River College, provides students with the theoretical and applied knowledge that employers are looking for in this field.**

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Applied Chemistry students attend The University of Winnipeg in years one, two, and four, and Red River College in year three. (See “Study Pattern” on page 2 for details.)

Students can choose from either a traditional program or a co-operative option that integrates academic studies with 12 months of paid work experience in chemistry-related positions. The co-operative option gives students the opportunity to not only gain valuable work experience, but also improve their employment and interpersonal skills and develop valuable contacts in the field. This combination of skills and experience provides students with the flexibility they need to succeed in an ever-changing job market.

Our Chemistry Department is renowned for its high quality instruction, small class sizes, and opportunities for undergraduate students to participate in cutting-edge faculty-led research programs. The department is a nationally recognized program. Students in the Joint (Applied) program receive a formal accreditation certificate from the Canadian Society for Chemistry (CSC).

This program leads to a **4-year Bachelor of Science degree**. Students who successfully complete the entire program receive a joint degree parchment from The University of Winnipeg and Red River College.

***Also, please see related fact sheets on “Chemistry” and “BioChemistry.”***

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### SAMPLE CAREERS

Chemists are involved in many fields, including environmental protection, pharmaceutical science, forensic science, toxicology, agricultural science, food science, education, geochemistry, biochemistry, materials science, biotechnology, oceanography, computer modelling, and plant management. Graduates with an Applied Chemistry degree can proceed directly to employment, or to graduate school (to obtain an MSc or PhD degree). As a “central science”, chemistry provides excellent preparation for a career in science as a teacher, technician, manager, consultant or research scientist in industry or government laboratories (such as hospitals and forensics), or with pharmaceutical or chemical companies.

### SAMPLE COURSES

**Core courses at The University of Winnipeg**  
**Instrumentation for Quantitative Analysis and Analytical Separations** are fourth-year courses that describe the general principles and applications of important chromatographic, spectroscopic, and electrochemical techniques in chemical analysis.

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**Physical Chemistry**, delivered as two second-year courses, describes the principles and applications of thermodynamics and the rates and mechanisms of chemical reactions. Quantum mechanics and its applications to the description of atomic and molecular spectra are introduced.

**Inorganic Chemistry II: Coordination and Organometallic Chemistry**, a third-year course, examines the bonding, structure and reactivity of coordination and organometallic compounds.

**Core courses at Red River** include Regulatory Compliance, Quality Assurance, and Hazardous Materials Management Principle, courses on practical aspects of lab technique and management.

## SAMPLE FIRST YEAR

BIOL-1115(3) Cells and Cellular Processes  
BIOL-1116(3) Evolution, Ecology, and Biodiversity  
CHEM-1111(3) Introduction to the Chemical Properties of Matter  
CHEM-1112(3) Basic Principles of Chemical Reactivity  
RHET-1103(3) Academic Writing: Science or any other section of Academic Writing (if required)  
MATH-1101(6) Introduction to Calculus  
PHYS-1301(6) Introduction to Physics  
3 credit hours Humanities. For example: PHIL-1202(3) Thinking About Moral Issues

## STUDY PATTERN

Students in this program complete their *degree* at The University of Winnipeg and their *diploma* at Red River College, as follows:

Year 1-2 – The University of Winnipeg (60 credit hours)

Year 3 – Red River College (30 credit hours)

Year 4 – The University of Winnipeg (30 credit hours)

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***“The program gives you good work experience so you have a head start on everybody else.”***

Holly Gubjartson (BSc Applied Chemistry, Cooperative Program)

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## REQUIRED HIGH SCHOOL COURSES

In addition to meeting The University of Winnipeg’s general admission requirements, you must have **Chemistry 40S** and either **Pre-Calculus Mathematics 40S** or **Applied Mathematics 40S**.

## HOW TO APPLY

Students wishing to pursue this program must apply to The University of Winnipeg to complete 60 credit hours, and then apply to Red River College for their third year. No application is necessary when the student returns to The University of Winnipeg in their fourth year.

**Step 1:** Apply to The University of Winnipeg:  
<http://www.uwinnipeg.ca>

**Step 2:** After completing 60 credit hours at UWinnipeg, apply to Red River College by **March 1** <http://www.rrc.mb.ca>

Note: Students are required to pay an application fee at both institutions.

For more information contact a student recruitment officer at [welcome@uwinnipeg.ca](mailto:welcome@uwinnipeg.ca) or 204.786.9844. In any case where the University’s Academic Calendar and this fact sheet differ, the current Calendar takes precedence.

## CONTACT US

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