



JOINT PROGRAM

## APPLIED BIOLOGY

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**Applied Biology provides an education in molecular and cellular biology. Biotechnologists must have excellent practical laboratory skills, but they also need a strong theoretical background to be able to expand the investigation, to troubleshoot, or to take a leadership role in the laboratory. Applied Biology is a joint program offered by The University of Winnipeg in conjunction with Red River College.**

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Students start by completing 60 credit hours of course work at The University of Winnipeg, followed by 30 credit hours in Chemical and Biosciences Technology at Red River College, and then their final 30 credit hours at UWinnipeg. You receive an enhanced level of both theoretical and applied education.

Students who enter the Applied Biology Program may choose either the traditional path or one with a cooperative education component. The co-op component includes three to four paid work terms for a total of at least 12 months on-the-job experience. This stream has limited enrolment.

The Applied Biology program leads to a 4-year Bachelor of Science degree. You will receive a **joint degree parchment from The University of Winnipeg and Red River College.**

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### SAMPLE CAREERS

Applied Biology prepares graduates for work in the food industry, agriculture, and medical research laboratories. Many find employment with government departments, private research laboratories, scientific consulting organizations, and pharmaceutical companies.

### SAMPLE COURSES

**Cells and Cellular Processes**, a first-year course, introduces the cellular level of organization. It covers cytology, cell metabolism, patterns of inheritance, and mechanisms of cellular control.

**Molecular Genetics and Genomics** deals with basic genetic techniques and phenomena at the molecular level. Topics covered include transcription, translations, and the genetic code; organization of genetic material in prokaryotes and eukaryotes; and recombinant DNA plus its applications.

**Molecular Cell Biology** covers cell signalling, the cytoskeleton, extracellular matrices and cell adhesion, cell division, apoptosis and cell death, the immune system, and the genetic basis of cancer.

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## 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  
STAT-1501(3) Elementary Biological Statistics I  
RHET-1103(3) Academic Writing: Science or any other section of Academic Writing (if required)  
ACS-1453(3) Intro to Computers OR ACS-1903(3) Programming Fundamentals I  
9 credit hours Electives

**NOTE:** This sample first year is representative of the courses you may take. For many of our programs, you may choose another set of courses and still be well on your way to a degree. Also, for most programs you do not have to take 30 credit hours (five full courses) in your first year.

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## STUDY PATTERN

Year 1-2 – The University of Winnipeg  
Year 3 – Red River College  
Year 4 – The University of Winnipeg

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***“I credit a lot of my success to the personal attention and research opportunities at The University of Winnipeg. Because this is a university with an undergraduate focus, professors are very accessible to undergraduate students.”***

- David Selchen (BA Psychology and Biology), Rhodes Scholar

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## REQUIRED HIGH SCHOOL COURSES

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

## HOW TO APPLY

Students must apply to UWinnipeg to complete 60 credit hours, and then apply to Red River College for the third year. No application is necessary when the student returns to UWinnipeg 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 RRC **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

**Judith Huebner**  
Department Chair  
**P** 204. 786.9769  
**E** [j.huebner@uwinnipeg.ca](mailto:j.huebner@uwinnipeg.ca)  
<http://www.uwinnipeg.ca/index/biology-index>

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