



Overview

Depending on the module(s) and basic medical science disciplines included in a student's BMSc degree, the subjects studied can range widely:

- Molecular genetics of human cancer
- Molecular biology of DNA, RNA and protein
- Respiratory health and disease
- Stem cell biology and regenerative medicine
- Mechanisms of cancer chemotherapy
- Principles of medical and digital imaging
- Human anatomy and physiology
- Mammalian histology
- Pathogenesis of human diseases
- Biology of infection and immunity
- Clinical biochemistry
- Neuropharmacology and cardiovascular pharmacology
- Endocrine, gastrointestinal and fetal physiology
- Environmental pathology
- Integrative neuroscience
- Neurobiology of mental illness
- Health informatics
- Epidemiology of major diseases

Key Features

Flexibility

Specialize in one discipline from a wide variety of subject areas or choose an interdisciplinary approach.

Novel Research in Year 4

Complete research with a faculty member in a discipline-specific Honors Specialization module.

Hands-on Experience

Gain valuable hands-on experience in problem solving and laboratories, as well as computer, analytical, applied laboratory, communication and organizational skills.

Interaction Between Basic and Clinical Medical Sciences

Learn and understand the interrelationships between basic science and its application in the clinical medical sciences, as discoveries move from the bench to the bedside.

Internship Program

Gain work and life skills between Years 3 and 4 by completing a paid 8-16 month internship placement.

Graduate with Two Honors Degrees in Five Years

Experience the Ivey Business School and BMSc by completing the combined BMSc/HBA program.

Career Opportunities

Career Choices

BMSc graduates have the background for careers in a variety of specialized areas:

- Law: bioethics and patent development for biological products
- Business: biotechnology – marketing, research and development and quality control
- Government laboratories: agriculture, marine and environmental sciences
- Industry: pharmaceutical, biotechnology, biosafety regulation and enforcement

Professional Schools

BMSc students develop an excellent foundation to apply for various professional schools and programs:

- | | |
|-------------|---------------------------|
| • Medicine | • Business |
| • Dentistry | • Pharmacy |
| • Education | • Optometry |
| • Law | • Applied Health Sciences |

Graduate Studies

The BMSc (Honors) Degree prepares students for Master of Science or doctoral programs (PhD) in any of the basic medical and biological sciences or for entry into associated fields such as forensic science, molecular genetics, genetic engineering, biomedical engineering and bioinformatics.

Learn More

To learn more about the BMSc Program, the Basic Medical Science Departments and the modules available, please visit the following websites:

Bachelor of Medical Sciences (BMSc) Program
www.schulich.uwo.ca/bmsc
www.schulich.uwo.ca/bmsc/brochure

Department of Anatomy and Cell Biology
www.schulich.uwo.ca/anatomy

Department of Biochemistry
www.schulich.uwo.ca/biochem

Department of Medical Biophysics
www.schulich.uwo.ca/biophysics

Department of Epidemiology and Biostatistics
www.schulich.uwo.ca/epibio

Department of Microbiology and Immunology
www.schulich.uwo.ca/microbiologyandimmunology

Department of Pathology
www.schulich.uwo.ca/pathol

Department of Physiology and Pharmacology
www.schulich.uwo.ca/physpharm

Interdisciplinary Medical Sciences (IMS) Modules
www.schulich.uwo.ca/bmsc/ims

Other Links

Schulich School of Medicine & Dentistry
www.schulich.uwo.ca

Faculty of Science
www.uwo.ca/sci

Academic Calendar
www.westerncalendar.uwo.ca

Science Career Services & Internship Program
www.uwo.ca/sci/iip

Contact

Basic Medical Sciences Undergraduate Education
Schulich School of Medicine & Dentistry
Western University
Medical Sciences Bldg., Room M138
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Bachelor of Medical Sciences (BMSc)

www.schulich.uwo.ca/bmsc
www.schulich.uwo.ca/bmsc/brochure





Why BMSc?

The Bachelor of Medical Sciences (BMSc) Program is designed for students who want to focus on all aspects of biology that define and influence the human condition.

The BMSc Advantage:

The BMSc Advantage allows students to specialize in one discipline or pursue a broad interdisciplinary program.

Education is enriched through hands-on experience in the lab in Years 1 and 2, opportunities to design and participate in experiments in Year 3, and a supervised research project in Year 4.

Beyond the classroom, students can apply to participate in an exchange program for an international experience, or a paid internship which supports on-the-job learning.

About BMSc

The Bachelor of Medical Sciences (BMSc) degrees are four-year undergraduate degrees, offered jointly by the Faculty of Science and the Schulich School of Medicine & Dentistry, and are designed for students interested in advanced study in one or more of the basic medical sciences.

The Basic Medical Sciences Include:

- Anatomy and Cell Biology
- Biochemistry
- Epidemiology and Biostatistics
- Medical Biophysics
- Microbiology and Immunology
- Pathology
- Pharmacology
- Physiology

Students wishing for an interdisciplinary approach and a broader education in the basic medical sciences are invited to consider the Interdisciplinary Medical Sciences (IMS) modules as an alternative to the discipline-specific modules.

To learn more about the BMSc Program and your future at Western University visit the **NEW** online brochure at schulich.uwo.ca/bmsc/brochure

Applying from High School

Students interested in the BMSc Program at Western University should apply to the Faculty of Science by selecting ESM (Medical Sciences) on the Ontario Universities' Application Centre (OUAC) application. Registration in the BMSc Program begins in Year 3, following the successful completion of Medical Sciences 1 and 2. See *Medical Sciences First Entry* in the Academic Calendar.

Medical Sciences 1: completion of 5.0 courses, including biology, chemistry, math and physics (with a minimum mark of 60 per cent in each).

Medical Sciences 2: completion of 5.0 courses, including all 2000-level courses specific to the module of interest.

Admission to Year 3 of the BMSc Program

Admission is assured for students in Medical Sciences 2, provided:

- An average of at least 80 per cent is achieved on the 2000-level admission requirements for the module requested
- A mark of at least 60 per cent is achieved in each modular course
- No modular courses have been repeated

If the target enrolment in Year 3 of the BMSc Program is not reached with students admitted from Medical Sciences 2, additional students will be admitted on a competitive basis.



For detailed information about applying for admission to Year 3 BMSc see *Admission to the Bachelor of Medical Sciences (BMSc) Program* in the Academic Calendar or *Admission & Progression* under *Current Students* on the BMSc website.

www.schulich.uwo.ca/bmsc

Modules Offered

A BMSc or BMSc Honors Degree must contain one of the following:

- 1 An Honors Specialization (HSP) module offered through a Basic Medical Sciences Department. Admission into these modules is competitive due to the limited number of spaces available in labs and Year 4 research projects (BMSc Honors).
- 2 A Specialization (SPZ) module offered through a Basic Medical Sciences Department (BMSc).
- 3 Two Major modules, both of which must be offered through the Basic Medical Sciences Departments (BMSc or BMSc Honors).

Refer to the Basic Medical Sciences Modules Chart for a full listing of the modules available.

The majority of BMSc graduates complete Honors Specialization (HSP) modules. Some choose to complete an additional Major or Minor module from either the Basic Medical Sciences or another faculty.

Basic Medical Sciences Modules Chart

The chart below outlines the modules offered in the Basic Medical Sciences. All Honors Specialization (HSP) modules, except IMS, include a Year 4 research project course.

Modules	HSP	SPZ	Major	Minor
Biochemistry	•	•	•	•
Biochemistry and Cancer Biology	•			
Biochemistry and Cell Biology	•			
Biochemistry and Pathology of Human Disease	•			
Biochemistry of Infection and Immunity	•			
Chemical Biology	•			
Computational Biochemistry	•			
Epidemiology and Biostatistics	•		•	
Interdisciplinary Medical Sciences (IMS)	•	•	•	
Medical Biophysics (Medical Science concentration)	•	•	•	•
Medical Biophysics (Clinical Physics concentration)	•			
Medical Biophysics and Biochemistry	•			
Medical Cell Biology	•		•	•
Medical Health Informatics	•			
Microbiology and Immunology	•	•	•	•
Microbiology and Immunology with Pathology	•			
One Health	•			
Pathology	•	•	•	
Pharmacology	•	•	•	•
Physiology	•	•	•	
Physiology and Pharmacology	•			

“Knowledge acquired through the BMSc program provides a great stepping stone to many different postgraduate options including research and professional school. Learning in a supportive atmosphere, with help from professors, academic counsellors and peers facilitates success in whichever field you wish to pursue.”

Rebecca Barnfield, BMSc'15

