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
- Neurochemistry and cardiovascular pharmacology
- Endocrine, gastrointestinal and fetal physiology
- Environmental pathology
- Integrative neurosciences
- 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 sciences and their 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: biotechnology – marketing, research and development and quality control
- Business: biotechnology – scientific, marketing, research and development
- 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
- Dentistry
- Education
- Law
- Pharmacy
- Applied Health Sciences
- Business
- Pharmacy
- Optometry
- Neuropharmacology and cardiovascular pharmacology
- Endocrine, gastrointestinal and fetal physiology
- Environmental pathology
- Integrative neurosciences
- Neurobiology of mental illness
- Health informatics
- Epidemiology of major diseases

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
- Department of Anatomy and Cell Biology
  www.schulich.uwo.ca/anatomy
- Department of Biochemistry
  www.schulich.uwo.ca/biochem
- Department of Medical Biochemistry
  www.schulich.uwo.ca/biochem
- 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/path
- Department of Physiology and Pharmacology
  www.schulich.uwo.ca/physpharm
- Interdisciplinary Medical Sciences (IMS) Modules
  www.schulich.uwo.ca/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
London, ON, Canada N6A 5C1

- T: 519.661.2111 ext. 83069
- F: 519.661.3472
- E: bmsc@schulich.uwo.ca

@westernubmsc
Beyond the classroom, students can apply to participate in supervised research projects to design and participate in hands-on experience in the lab. The BMSc Advantage allows students who want to focus on all aspects of biology that define and influence the human condition. Education is enriched through an interdisciplinary program. A mark of at least 60 per cent is achieved in all 2000-level courses specific to the module of interest. An average of at least 80 per cent is achieved including all 2000-level courses specific to the discipline of the Interdisciplinary Medical Sciences (IMS) module requested. If the target enrolment in Year 3 of the BMSc Program is not reached with students admitted from Medical Sciences 2, provided: A mark of at least 60 per cent is achieved in each modular course including all 2000-level courses specific to the discipline of the module requested. Admissions is assured for students in Medical Sciences 1 and 2. See the Academic Calendar for detailed information about applying for admission to Year 3 BMSc see Admission to The Bachelor of Medical Sciences (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, mathematics 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 in 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. 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). 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. 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

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.

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<th>Modules</th>
<th>HSP</th>
<th>SP2</th>
<th>Major</th>
<th>Minor</th>
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<td>Biochemistry</td>
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<td>Biochemistry and Cancer Biology</td>
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<td>Biochemistry and Cell Biology</td>
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<td>Chemical Biology</td>
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<td>Epidemiology and Biostatistics</td>
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<td>Interdisciplinary Medical Sciences (IMS)</td>
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<td>Medical Biophysics (Medical Science concentration)</td>
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<td>Medical Biophysics (Clinical Physics concentration)</td>
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<td>Medical Health Informatics</td>
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<td>Microbiology and Immunology</td>
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<td>Microbiology and Immunology with Pathology</td>
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<td>One Health</td>
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<td>Physiology and Pharmacology</td>
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"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

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

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.

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.

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 a 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.

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