

Biological Sciences, Medical Sciences, Health Sciences...

What's the difference?



BIOLOGICAL SCIENCES (www.uwo.ca/biology)	BASIC MEDICAL SCIENCES (www.uwo.ca/bmsc)	HEALTH SCIENCES (www.uwo.ca/fhs/health_studies/)
At Western, Biology is taught from a perspective that integrates the subcellular, cellular, organism, community and ecosystem levels. Instead of looking at organisms purely from the level of plant, animal or microbe, you will learn about the diversity of organisms and the complex relationships that exist within the different levels of biological organization.	The well-being of a person requires the adaptive and complex interplay between environmental factors and genetics, biochemical pathways and physiological systems. Modules in the basic medical sciences explore the molecular, cellular and systematic organization of the human body and the biological mechanisms it uses to adapt to environmental changes and the challenge of disease.	The World Health Organization defines health as a "state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1984). Health Sciences promotes health and wellness and reviews how health care is provided. The Bachelor of Health Sciences program explores these concepts as well as Canadian and international health systems.
MODULES OFFERED		
The Department of Biology offers modules in, biology, ecosystem health, animal behavior, biology and geology, genetics, genetics and biochemistry.	The basic medical science departments offer modules in biochemistry, medical biophysics, medical cell biology, medical sciences, microbiology and immunology, pathology and toxicology, pharmacology and physiology.	Honors Specialization modules in community rural health development, health sciences, health sciences – health promotion, health sciences – health sciences with biology, and rehabilitation sciences are offered. Majors and Minors in Health Sciences as well as rehabilitation sciences are also offered.
COURSE SELECTION -- YEARS 1 AND 2		
Year 1: Biology, Chemistry, Mathematics, Physics Year 2: Biochemistry, Cell Biology, Genetics, Scientific Method in Biology, Organic Chemistry, Biostatistics, Ecology, Evolution.	Year 1: Biology, Chemistry, Mathematics, Physics Year 2: Biochemistry, Cell Biology, Genetics, Scientific Method in Biology, Organic Chemistry, Statistics (Year 2 course selection is different for Medical Biophysics modules)	Year 1. Health and Wellness, Biology.
COURSE SELECTION -- YEARS 3 AND 4		
Students branch out into the various disciplines within Biology in Years 3 and 4. Courses available include animal behaviour, animal physiology, plant biology, as well as advanced courses in cell biology, genetics, and comparative physiology. A variety of field courses are also offered.	The focus in these years is studying one or more of the basic medical science disciplines, depending on the module(s) selected. Year 4 courses and the research projects required in the Honors Specializations (or the advanced lab in Medical Sciences) build on basic medical science courses taken in Year 3.	Years 2-4. Anatomy, Measurement & Analysis, Research Methods, Ethics & Health, Health Policy, Health Promotion, Health Issues in Aging, Health Issues in Childhood and Adolescence.
CAREER OPPORTUNITIES		
Many graduates with Honors degrees in Biology go on to graduate studies (MSc and/or PhD) and professional schools (dentistry, medicine, veterinary medicine, law, pharmacy). There is a broad range of employment opportunities for graduates with a Biology background at all levels (BSc, MSc or PhD), including: <ul style="list-style-type: none"> - the public sector (agriculture, environment, fisheries and health) - business and industry (including research, development and marketing in biotechnology, consulting and health care) - teaching at either the elementary, secondary or post-secondary level - law (bioethics, patent development for biological products) 	Many graduates with BMSc degrees and basic medical science modules go on to professional schools (dentistry, medicine, veterinary medicine, pharmacy, physical therapy, chiropractic) and graduate studies (MSc and/or PhD). Other career/employment opportunities include: <ul style="list-style-type: none"> - law (bioethics, patent development for medical products) - business (biotechnology – marketing, research and development, quality control) - government laboratories (agriculture, marine and environmental sciences) - industry (pharmaceuticals, biotechnology, biosafety regulation and enforcement) - teaching at either the elementary, secondary or post-secondary level 	School of Health Studies graduates have successfully established careers in a wide variety of health-related fields, including: <ul style="list-style-type: none"> Health promotion Community health programming Public sector administration and policy development areas (such as Health Canada) Biomedical ethics Business and industry (wellness and rehabilitation organizations, pharmaceuticals) Non-profit sector (such as Heart and Stroke Foundation and the Canadian Cancer Society).

NOTE:

Many Honors graduates enter professional programs which include Veterinary School, Medicine, Dentistry, Education, Occupational and Physical Therapy, Law and Business. It is important to remember that there is no preferred route to any of these schools. To be eligible for these programs you must have the necessary prerequisite courses. Enrolment is limited and admission is very competitive.