HONOURS BSC IN BIOLOGY - PLANT SCIENCE OPTION

Overview

Recent discoveries and new technologies are revolutionizing the biological sciences, placing increasing emphasis on integrating knowledge across all levels of organization, from molecules to ecosystems. Our programs give students both the intellectual tools and the hands-on experience they need to pursue careers in fields as diverse as conservation and endangered species; land-use management; ecotoxicology; academic, industry or government research; or health care. Learning takes place through traditional classroom instruction, innovative laboratory projects with state-of-the-art technologies, field-based courses around the world, and a strong research program in which undergraduate students of all years are intensively mentored in a research lab.

The honours program in biology allows for in-depth study in one or more biological disciplines. Students can concentrate on a particular area by choosing one of four options: Cellular and Molecular Biology, Animal Physiology, Plant Science, or Ecology, Evolution and Behaviour. This route includes a compulsory independent research project to equip students with advanced research, analysis and communication skills applicable to diverse careers. Alternatively, they can pursue diverse interests by selecting a general course of study that includes a number of advanced courses, and they can gain work experience while studying through the Co-Operative Education Programs.

This program is offered in English and in French.

Program Requirements

Co-operative education is available with this program.

The French immersion stream is available with this program.

Requirements for this program have been modified. Please consult the 2025-2026 calendars (http://catalogue.uottawa.ca/en/archives/) for the previous requirements.

Basic Skills		
3 optional course units in English (ENG) at the 1000 or 2000 level		3 Units
Compulsory Courses at the 1000 level		
BIO 1131	Introduction to Organismal Biology	3 Units
BIO 1141	Introduction to Cell and Molecular Biology	3 Units
BIO 1150	BioZoo: An Introduction Laboratory in Biology	3 Units
CHM 1311	Principles of Chemistry	3 Units
CHM 1321	Organic Chemistry I	3 Units
GEO 1111	Introduction to Earth Systems	3 Units
MAT 1330	Calculus for the Life Sciences I	3 Units
MAT 1332	Calculus for the Life Sciences II	3 Units
PHY 1321	Principles of Physics I	3 Units
Compulsory Courses at the 2000 level		
BCH 2333	Introduction to Biochemistry	3 Units
BIO 2129	Ecology	3 Units
BIO 2133	Genetics	3 Units
BIO 2135	Animal Form and Function	3 Units
BIO 2137	Introduction to Plant Science	3 Units
CHM 2120	Organic Chemistry II	3 Units
STA 2392	Introduction to Biostatistics	3 Units
Compulsory Courses at the 3000 level		
BIO 3140	Plant Physiology and Biochemistry	3 Units
BIO 3142	Plant Developmental Biology	3 Units
BIO 3310	Plant Systematics and Diversity	3 Units
Compulsory Courses at the 4000 level		
BIO 4009	Honours Research	9 Units
BIO 4922	Evaluating and Developing Science	3 Units
Optional Courses		
9 course units from:		9 Units
BCH 3120	General Intermediary Metabolism	
BIO 3128	Biology of Algae and Fungi	
BIO 3146	Integrative Plant Biology	
BIO 3360	Computational Tools for Biological Sciences	
BIO 4142	Plant Immunity and Symbioses	
BIO 4144	Plant Molecular Biology	
BIO 4145	Eukaryotic Microbiology	
BIO 4158	Applied Biostatistics in R	
BPS 3102	Principles of Toxicology and Pharmacology	
9 optional course units in biology (BIO), biopharmaceutical science (BPS) or environmental science (EVS), ITI 1120, BCH 3120, BCH 3125, BCH 3356, BCH 4122, BCH 4125, BCH 4188, PHA 4107, SCI 3101 with at least 3 of the 12 optional course units at the 3000 or 4000 level		9 Units
Elective Courses		
9 elective course units offered by the Faculty of Arts, the Faculty of Education, the Faculty of Law, the Faculty of Social Sciences or the Telfer School of Management		9 Units
21 elective course units		21 Units
Total:		**120 Units**

Note(s)

Within your program of study, you must complete a minimum of 15 course units at the 3000 or 4000 level with a laboratory component. A complete list of courses having a laboratory component can be found below. Please note: if a course listed below has already been used to fulfill a compulsory or optional requirement in your program listed above, these course units count towards this total of 15 units.

List of Optional Courses with a Laboratory Component

BIM 4316	Modern Bioanalytical Chemistry	3 Units
BIO 3103	Field Biology	3 Units
BIO 3126	General Microbiology Laboratory	3 Units
BIO 3128	Biology of Algae and Fungi	3 Units
BIO 3137	Experiments in Animal Physiology	3 Units
BIO 3146	Integrative Plant Biology	3 Units
BIO 3151	Molecular Biology Laboratory	3 Units
BIO 3152	Cell Biology Laboratory	3 Units
BIO 3154	Population and Community Ecology	3 Units
BIO 3158	Vertebrate Zoology	3 Units

BIO 3333	Entomology	3 Units
BIO 3360	Computational Tools for Biological Sciences	3 Units
BIO 4004	Honours Research	3 Units
BIO 4150	Spatial Ecology	3 Units
BIO 4156	Freshwater Ecology	3 Units
BIO 4158	Applied Biostatistics in R	3 Units
BIO 4302	Animal Movement	3 Units
BPS 4104	Bioinformatics Laboratory	3 Units
BPS 4127	Advanced Techniques in Biosciences	3 Units