

# HONOURS BSC IN BIOLOGY (RESEARCH FOCUS) - PLANT SCIENCE OPTION

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

The French immersion stream is available with this program.

Requirements for this program have been modified. Please consult the 2023-2024 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 1130	Introduction to Organismal Biology	3 Units
BIO 1140	Introduction to Cell and Molecular 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

MAT 2379 Introduction to Biostatistics 3 Units

### Compulsory Courses at the 3000 level

BIO 3009	Research Practicum	6 Units
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 4158	Applied Biostatistics	3 Units
BIO 4922	Seminar – 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	Ecophysiology of Plants
BIO 3360	Computational Tools for Biological Sciences
BIO 4111	Plant-Animal Interactions
BIO 4142	Plant Immunity and Symbioses
BIO 4144	Plant Molecular Biology
BIO 4145	Eukaryotic Microbiology
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<sup>1</sup>

### 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<sup>1</sup> 9 Units

15 elective course units 15 Units

**Total:** 120 Units