

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

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| 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

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| 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

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| 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

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| 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

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| 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 level¹ 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 Management¹ 9 Units

15 elective course units 15 Units

Total: 120 Units