HONOURS BSC IN BIOLOGY

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 in biology allows for in-depth study in one or more biological disciplines. Students can concentrate on a particular area by choosing one of three options: Cellular and Molecular Biology, Physiology, 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.

Students thinking of a career in research should consider the Research Focus, an immersive research experience in the third and fourth years. 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.

The major in biology introduces students to cell biology, genetics, evolution, ecology and physiology (both plant and animal). It is combined with either another major or a minor. The major allows students to pursue diverse interests while opening the door to graduate studies or a career in the life sciences.

The minor in biology is a flexible program that allows students to select a subset of biology courses.

This program is offered in English and in French.

Program Requirements

Co-operative education is available with this program.

The extended French stream is available with this program.

Requirements for this program have been modified. Please consult the 2018-2019 calendars (http://catalogue.uottawa.ca/en/archives) for the previous requirements.

3 optional course units in English (ENG) at the 1000 or 2000 level
BIO 2133  Genetics  3 Units
BIO 2135  Animal Form and Function  3 Units
BIO 2137  Introduction to Plant Science: Biodiversity to Biotechnology  3 Units
CHM 2120  Organic Chemistry II  3 Units
MAT 2379  Introduction to Biostatistics  3 Units
BIO 4920  Seminar I Evaluating Science  1.5 Units
BIO 4921  Seminar II Developing and Communicating Science  1.5 Units
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  9 Units
27 optional course units in biology (BIO), biopharmaceutical science (BPS) or environmental science (EVs) at the 3000 or 4000 level, BCH 3120, BCH 3125, BCH 3356, BCH 4122, BCH 4125, BCH 4188  27 Units
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
24 elective course units  24 Units
Total: 120 Units

Note(s)
1. Within your program of study, you must complete a minimum of 12 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 12 units.

List of Optional Courses

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 3137  Experiments in Animal Physiology  3 Units
BIO 3146  Ecophysiology of Plants  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 3310  Plant Systematics and Diversity  3 Units
BIO 3333  Entomology  3 Units
BIO 3360  Computational Tools for Biological Sciences  3 Units
BIO 3924  Biology of Algae and Fungi  3 Units
BIO 4004  Honours Research  3 Units
BIO 4009  Honours Research  9 Units
BIO 4122  Experiments in Animal Behaviour  3 Units
BIO 4148  Phylogenetic Systematics  3 Units
BIO 4150  Spatial Ecology  3 Units
BIO 4156  Freshwater Ecology  3 Units
BIO 4158  Applied Biostatistics  3 Units
BIO 4910  Field Course in Ecology  3 Units

List of Optional Courses

3 optional course units in English (ENG) at the 1000 or 2000 level
BIO 1130  Introduction to Organismal Biology  3 Units
BIO 1140  Introduction to Cell 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
BCH 2333  Introduction to Biochemistry  3 Units
BIO 2129  Ecology  3 Units
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BPS 4104</td>
<td>Bioinformatics Laboratory</td>
<td>3</td>
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<tr>
<td>BPS 4127</td>
<td>Advanced Techniques in Biosciences</td>
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