HONOURS BSC IN BIOLOGY (RESEARCH FOCUS) - ECOLOGY, EVOLUTION, BEHAVIOUR 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 generate new knowledge and contribute to debates on issues as diverse as land management, conservation and endangered species, disease prevention and management, stem cell research and genetically modified organisms.

Learning takes place through traditional classroom instruction, innovative laboratory projects with state-of-the-art technologies and a strong basic research program in which undergraduate students at all levels are intensively mentored in a research lab.

The Honours program in biology provides the opportunity for in-depth study within one or more biological disciplines. Students can concentrate in a particular area by choosing one of three options—cellular and molecular biology, physiology and ecology, evolution and behaviour. This route includes a compulsory independent research project designed to prepare students for graduate studies. Alternatively, students can choose to pursue diverse interests by selecting a general course of study that will include a number of advanced courses.

The major in biology introduces students to cell biology, genetics, evolution, ecology and physiology (both plant and animal). The major is combined with either another major or a minor and 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

The extended French stream is available with this program.

Compulsory Courses at the 1000 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

Compulsory Courses at the 2000 level

BCH 2333  Introduction to Biochemistry  3 Units
BIO 2129  Ecology  3 Units
BIO 2133  Genetics  3 Units

Compulsory Courses at the 3000 level

BIO 3009  Research Practicum  6 Units

Compulsory Courses at the 4000 level

BIO 4009  Honours Research  9 Units
BIO 4158  Applied Biostatistics  3 Units
BIO 4920  Seminar I Evaluating Science  1.5 Units
BIO 4921  Seminar II Developing and Communicating Science  1.5 Units

Optional Courses

12 course units from:  
BIO 3102  Molecular Evolution  3 Units
BIO 3103  Field Biology  3 Units
BIO 3115  Conservation Biology  3 Units
BIO 3117  Ecosystem Ecology  3 Units
BIO 3119  Population Genetics  3 Units
BIO 3122  Evolutionary Biology  3 Units
BIO 3146  Ecophysiology of Plants  3 Units
BIO 3154  Population and Community Ecology  3 Units
BIO 3176  Animal Behaviour  3 Units
BIO 3310  Plant Systematics and Diversity  3 Units
BIO 3360  Computational Tools for Biological Sciences  3 Units
BIO 3924  Biology of Algae and Fungi  3 Units
BIO 4101  Pesticides and the Environment  3 Units
BIO 4111  Plant-Animal Interactions  3 Units
BIO 4122  Experiments in Animal Behaviour  3 Units
BIO 4146  Ecotoxicology  3 Units
BIO 4148  Phylogenetic Systematics  3 Units
BIO 4150  Spatial Ecology  3 Units
BIO 4156  Freshwater Ecology  3 Units
BIO 4159  Evolutionary Ecology  3 Units
BIO 4162  Tropical Ecology  3 Units
BIO 4537  Génétique évolution humaine  3 Units
BIO 4551  Physiologie évolutive et écophysiologie  3 Units
BIO 4910  Field Course in Ecology  3 Units

3 optional course units in English (ENG) at the 1000 or 2000 level  3 Units
9 optional course units in biology (BIO), biopharmaceutical science (BPS) or environmental science (EV1), ITI 1120, BCH 3120, BCH 3125, BCH 3356, BCH 4122, BCH 4125, BCH 4188  9 Units
3 optional course units in biology (BIO), biopharmaceutical science (BPS) or environmental science (EV1) at the 3000 or 4000 level, BCH 3120, BCH 3125, BCH 3356, BCH 4122, BCH 4125, BCH 4188  3 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

Elective Courses
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<th>18 elective course units</th>
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<td>Total:</td>
<td>120 Units</td>
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