

ENVIRONMENTAL BIOLOGY – SPECIALIZATION (SCIENCE) – BACHELOR OF SCIENCE (HONOURS)

Subject: Administered by the School of Environmental Studies in partnership with the Department of Biology.

Plan: Consists of 102.00 units as described below.

Plan Code: EBIO-S

Program: The Plan, alone, or in combination with a Minor in another subject, and with sufficient electives to total 120.00 units, will lead to a Bachelor of Science (Honours) Degree.

Code	Title	Units
1. Core		
– CORE SCIENCE –		
A. Complete the following:		
BIOL 102	Fundamentals of Biology: Molecular and Cell Biology	3.00
BIOL 103	Fundamentals of Biology: Organisms to Ecosystems	3.00
B. Complete 6.00 units from the following:		6.00
CHEM 109	General Chemistry I: From Atoms to & CHEM 110 Matter	
	and General Chemistry II: Thermodynamics and Kinetics	
or		
CHEM 112	General Chemistry	
C. Complete the following:		
GPHY 101	Human Geography	3.00
GPHY 102	Physical Geography and Natural Resources	3.00
D. Complete 3.00 units from the following:		3.00
GEOL 104	The Dynamic Earth	
GEOL 107	History of Life	
E. Complete 6.00 units from the following:		6.00
MATH 120	Differential and Integral Calculus	
or		
MATH 121	Differential and Integral Calculus	
or		
MATH 123	Differential and Integral Calculus I & MATH 124 and Differential and Integral Calculus II	
– CORE ENVIRONMENTAL BIOLOGY –		
F. Complete 15.00 units from the following:		15.00
BIOL 200	Diversity of Life	
BIOL 205	Mendelian and Molecular Genetics	
BIOL 206	Evolutionary Genetics	
BIOL 212	Scientific Methods in Biology	
BIOL 243	Introduction to Statistics	

STAT 269	Statistics and Probability II	
G. Complete 3.00 units from the following:		3.00
BIOL 334	Comparative Biochemistry	
BIOL 339	Animal Physiology	
BIOL 341	Plant Physiology	
H. Complete 3.00 units from the following:		3.00
BIOL 300	Ecology	
I. Complete 3.00 units from the following:		3.00
BCHM 218	Molecular Biology	
BIOL 330	Cell Biology	
– CORE SOCIAL SCIENCES AND HUMANITIES –		
J. Complete the following:		3.00
ENSC 103	Environment and Sustainability	
K. Complete the following:		
ENSC 230	Principles of Sustainability	3.00
ENSC 330	Applications of Sustainability	3.00
2. Option		
A. Complete 3.00 units from the following:		3.00
GEOL at any level		
B. Complete 3.00 units from the following course list:		3.00
ENSC_Specialization_Options_B		
C. Complete 3.00 units from the following course list:		3.00
ENSC_Interdisciplinary_Humanities		
D. Complete 3.00 units from the following:		3.00
CHEM at the 200-level or above		
E. Complete 30.00 units from the following thesis and non-thesis options:		30.00
i. Environmental Biology Research Thesis Option:		
a. Complete 12.00 units from the following:		
BIOL 537	Research in Biology	
ENSC 502	Research Project Sustainability	
b. Complete 6.00 units from the following:		
BIOL at the 300-level or above		
BIOL_Sub_B		
ENSC_Specialization_Options_B		
c. Complete 12.00 units from the following:		
BIOL at the 300-level or above		
ii. Environmental Biology Non-thesis Option:		
a. Complete 6.00 units from the following:		
ENSC 430	Honours Projects in Environmental Sustainability	
ENSC 501	Independent Environmental Study	



b. Complete 12.00 units from the following:

BIOL at the 300-level or above

ENSC_Specialization_Options_B

c. Complete 12.00 units from the following:

BIOL at the 300-level or above

Electives and/or Other Plan Requirements 18.00

Total Units 120.00

3. Substitutions

A. ENSC 502/12.0 may be substituted for Option **2.E.ii.a.** and a further 6.00 units in electives and/or Plan requirements as approved by the Chair of Undergraduate Studies.

B. BCHM 310/9.0* (or the combination of BCHM 315/3.0 and BCHM 316/3.0) may be substituted for 3.00 units from (BIOL 334/3.0 or BIOL 339/3.0 or BIOL 341/3.0) with the remaining units applied toward Option Course requirements in the degree program.

4. Notes

A. This Plan may not be combined with a Biology Minor (BIOL-Z). Please refer to Academic Program Regulation 3 (<https://arts-science/academic-programs/>) for further information.

B. A maximum of 6.00 units from courses offered by other Faculties and Schools may be counted toward the program and/or Plan requirements. This includes courses in BMED, COMM, GLPH, HSCI, LAW, NURS, and courses offered by Smith Engineering.

Environmental Biology Course Lists

The following lists may contain courses offered through other Departments. In accordance with Academic Regulation **2.6** (Access to Classes), students do not have enrolment priority in all of these courses. Access to these courses may only be made available during the Open Enrolment period, and then only if space permits.

ENSC_Specialization_Options_B

Code	Title	Units
BIOL 335	Limnology and Aquatic Ecology	3.00
ENSC 201	Environmental Toxicology and Chemical Risks	3.00
ENSC 301	Environmental Assessment	3.00
ENSC 307	Marine Environmental Issues	3.00
ENSC 320	Wildlife Issues in a Changing World	3.00
ENSC 407	Global Water Resources: Challenges and Opportunities	3.00
ENSC 408	Wildfire Science and Management	3.00
ENSC 425	Ecotoxicology	3.00

ENSC 480	Special Topics in Environmental Science	3.00
GEOL 106	Environmental Geology and Natural Hazards	3.00
GEOL 107	History of Life	3.00
GEOL 200	Oceanography	3.00
GPHY 207	Principles of Biogeography	3.00
GPHY 209	Weather and Climate	3.00
GPHY 304	Northern and Arctic Environments	3.00
GPHY 312	Watershed Hydrology	3.00
GPHY 314	Climate Change	3.00
GPHY 317	Soil, Environment, and Society	3.00
GPHY 318	Advanced Biogeography	3.00
GPHY 319	Contemporary Energy Resources	3.00

ENSC_Interdisciplinary_Humanities

Code	Title	Units
CLST 214	Ancient Science	3.00
DEVS 220	Introduction to Indigenous Studies	3.00
DEVS 221	Indigenous Studies II - Resistance and Resurgence	3.00
ENGL 113	Reading for the Planet	3.00
ENGL 218	Introduction to Indigenous Literatures in Canada	3.00
ENGL 276	Literature and the Environment	3.00
INDG 101	Indigenous Knowledges and Perspectives	3.00
PHIL 203	Science and Society	3.00
PHIL 293	Humans and the Natural World	3.00
PHIL 493	Ethics and the Environment	3.00
RELS 235	Religion and Environment	3.00

BIOL_Sub_B

Code	Title	Units
APSC 400	Technology, Engineering & Management (TEAM) ¹	7.00
CHEE 400	Technology, Engineering & Management (TEAM) ¹	7.00
CHEM at the 200-level and above		
ENSC 301	Environmental Assessment	3.00
ENSC 307	Marine Environmental Issues	3.00
ENSC 320	Wildlife Issues in a Changing World	3.00
ENSC 425	Ecotoxicology	3.00
EPID 301	Principles of Epidemiology	3.00
GEOL 337	Paleontology	3.00
GEOL 466	Isotopes and the Environment	3.00
GPHY 304	Northern and Arctic Environments	3.00
GPHY 310	Landscape Ecology	3.00
GPHY 314	Climate Change	3.00

GPHY 318	Advanced Biogeography	3.00
PHIL 301	Bioethics	3.00
PSYC 236	Introduction to Clinical Psychology	3.00
PSYC 271	Brain and Behaviour I	3.00
PSYC 370	Brain and Behaviour II	3.00
PSYC 470	Advanced Topics in Behavioural Neuroscience	3.00
STAT 353	Probability II	3.00

¹ Note that the unit weighting system in Smith Engineering differs from that in the Faculty of Arts and Science. Therefore, upon acceptance of any course from Smith Engineering, the unit weighting towards Arts and Science degree requirements shall be at the discretion of the Associate Dean (Academic). Usually, a one-term course shall count as 3.00 units and a two-term course as 6.00 units.