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

EBIO-P-BSH

Subject: Administered by the School of Environmental Studies in partnership with the Department of Biology.
Plan: Consists of 102.00 units as described below.
Program: The Plan, 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 the following:		
CHEM 112	General Chemistry	6.00
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 111	Linear Algebra	
MATH 120	Differential and Integral Calculus	
MATH 121	Differential and Integral Calculus	
MATH 123 & MATH 124	Differential and Integral Calculus I 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**
BCHM 310	General Biochemistry	
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_Subs_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	
Elective Courses	18.00
Total Units	**120.00**

3. Substitutions

A. ENSC 502 may be substituted for requirement **2.F.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 (or the combination of BCHM 315 and BCHM 316) may be substituted for 3.00 units from (BIOL 334 or BIOL 339 or BIOL 341) with the remaining 6.00 units applied toward Option Course requirements in the degree program.

4. Notes

A. 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 in the Faculty of Engineering and Applied Science.

Environmental Biology Course Lists

The following lists 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.

BIOL_Subs_B

Code	Title	Units
Biology Substitutions List B		
APSC 400	Technology, Engineering & Management (TEAM)	7.00
CHEE 400	Technology, Engineering & Management (TEAM)	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 390	Sustainability	3.00
ENSC 425	Ecotoxicology	3.00
ENSC 471	Environmental Analysis Methods	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 306	Natural Environmental Change	3.00
GPHY 310	Landscape Ecology	3.00
GPHY 314	Climate Change	3.00
GPHY 318	Advanced Biogeography	3.00
GPHY 339	Medical Geography	3.00
PHAR 340	Principles of General Pharmacology I	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

ENSC_Specialization_Options_B

Code	Title	Units
Options in the Environmental Science Specialization Plans, List B		
BIOL 335	Limnology and Aquatic Ecology	3.00
ENSC 307	Marine Environmental Issues	3.00
ENSC 201	Environmental Toxicology and Chemical Risks	3.00
ENSC 301	Environmental Assessment	3.00
ENSC 320	Wildlife Issues in a Changing World	3.00
ENSC 407	Global Water Issues	3.00
ENSC 425	Ecotoxicology	3.00
ENSC 471	Environmental Analysis Methods	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 306	Natural Environmental Change	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
Environmental Science/Studies Interdisciplinary Humanities Options		
CLST 214	Ancient Science	3.00
DEVS 220	Introduction to Indigenous Studies	3.00

DEVS 221	Indigenous Studies II - Resistance and Resurgence	3.00
PHIL 203	Science and Society	3.00
PHIL 293	Humans and the Natural World	3.00
PHIL 310	Development Ethics	3.00
PHIL 493	Ethics and the Environment	3.00
RELS 235	Religion and Environment	3.00