

E N V I R O N M E N T A L S T U D I E S P R O G R A M

# EBIO-P-BSH

**SSP ENVIRONMENTAL SCIENCE BIOLOGY PROGRAM REQUIREMENTS**

**2021/2022**

**Advisor:** Dr. Stephen Brown, Biosciences Rm. 3130, email: [stephen.brown@chem.queensu.ca](mailto:stephen.brown@chem.queensu.ca)

The four-year B.Sc. (Honours, SSP, Environmental Biology) requires a minimum of **120.0 units** in total.

<b>Core Science &amp; Social Science Courses: 57.0 units</b>	<b>Completed</b>
<b>6.0 units</b> in BIOL 102(Intro. Biology of Cells) <b>and</b> BIOL 103 (Intro. Biology of Organisms)	
<b>6.0 units</b> from CHEM 112(General Chemistry)	
<b>6.0 units</b> from GPHY 101(Human Geography) <b>and</b> GPHY 102(Earth System Science)	
<b>3.0 units</b> in GEOL 104 (The Dynamic Earth) <b>or</b> GEOL 107 (History of Life)	
<b>6.0 units</b> from MATH 111; MATH 120; MATH 121; (MATH 123 <b>and</b> MATH 124)	
<b>15.0 units</b> from BIOL 200 (Diversity of Life); BIOL 212 (Scientific Methods in Biology); <i>BIOL 201(Diversity of Life I)</i> , <i>BIOL 202(Diversity of Life II)</i> , BIOL 205(Introduction to Genetics I), BIOL 206(Introduction to Genetics II), (BIOL 243(Data Management and Analysis) <b>or</b> STAT 269(Stats & Probability II))	
<b>3.0 units</b> from BCHM 310 (General Biochemistry) <b>or</b> BIOL 334(Comparative Biochemistry) <b>or</b> BIOL 339(Animal Physiology) <b>or</b> BIOL 341(Plant Physiology)	
<b>3.0 units</b> from BIOL 300 ( <i>or</i> <i>BIOL 302(Population and Evolutionary Ecology)</i> <b>or</b> <i>BIOL 303(Community and Ecosystem Ecology)</i> )	
<b>3.0 units</b> in BCHM 218(Molecular Biology) <b>or</b> BIOL 330(Cell Biology)	
<b>3.0 units</b> in ENSC 103 (Environment and Sustainability)	
<b>3.0 units</b> in ENSC 390 (Sustainability)	
<b>Option Courses: 45.0 units</b>	<b>Completed</b>
<b>3.0 units</b> in GEOL	
<b>3.0 units from ENSC Specialization Options B:</b> BIOL 335(Limnology and Aquatic Ecology), ENSC 201 (Environmental Toxicology and Chemical Risks), ENSC 301(Environmental Assessment), ENSC 307(Marine Environmental Issues), ENSC 320(Wildlife Issues in a Changing World), ENSC 407(Global Water Issues), ENSC 425(Ecototoxicology), ENSC 471(Environmental Analysis Methods), ENSC 480(Special Topics in Environmental Science), ENSC 481(Special Topics in Environmental Science II), GEOL 106(Environmental Geology and Natural Hazards), GEOL 107(History of Life), GEOL 200(Oceanography), GPHY 207 (Principles of Biogeography), GPHY 209(Principles of Hydroclimatology), GPHY 304(Arctic and Periglacial Environments), GPHY 306 (Natural Environmental Change), GPHY 312(Watershed Hydrology), GPHY 314(Climatic Change), GPHY 317(Soil, Environment & Society), GPHY 318(Advanced Biogeography), GPHY 319(Bioenergy & Biorefining)	
<b>3.0 units from ENSC Interdisciplinary Social Science and Humanities:</b> CHEE 342 (Environmental Biotechnology), CLST 214 (Ancient Science), DEVS 220(Intro to Aboriginal Studies), DEVS 221(Topics in Aboriginal Studies), DEVS 250 (Global Environmental Transformations), ENSC 200(Environmental History), ENSC 290(Intro. To Ecological Economics) <b>or</b> ECON 290(Intro. to Environmental Economics), ENSC 301 (Environmental Assessment), ENSC 305(Social Environments), ENSC 307(Marine Environmental Issues), ENSC 310(Environmental Policy), ENSC 315(Global Food Security, Agriculture and Environment), ENSC 320 (Wildlife Issues in a Changing World), ENSC321(Environmental Justice), ENSC 407(Global Water Issues), ENSC 420(Gender and Environments), ENSC 482(Special Topics in Environmental Studies), ENSC 483(Special Topics in Environmental Studies II), GPHY 336(Geography, Environment & Human	

Updated: August 10, 2021

Health), GPHY 339(Medical Geography), PHIL 203 (Science and Society), PHIL 293(Humans and the Natural World), PHIL 310(Development Ethics), PHIL 493(Ethics and the Environment), RELS 235(Religion and Environment)	
<b>3.0 units from ENSC Interdisciplinary Humanities:</b> CLST 214 (Ancient Science); DEVS 220(Intro to Aboriginal Studies); DEVS 221(Topics in Aboriginal Studies); PHIL 203 (Science and Society); PHIL 293 (Humans and the Natural World); PHIL 310 (Development Ethics); PHIL 493 (Ethics and the Environment); RELS 235 (Religion and Environment)	
<b>3.0 units</b> from CHEM at the 200-level or above	
<b>30.0 units</b> from i or ii below:	
<b>i. Environmental Biology Research Thesis Option</b>	
a. 12.0 units from ENSC 502(Research Project - Sustainability) <b>or</b> BIOL 537(Biology Thesis)	
b. 6.0 units from BIOL at the 300-level or above; ENSC Specialization Options B; BIOL_Sub_B	
c. 12.0 units from BIOL at the 300-level or above	
<b>ii. Environmental Biology Non-thesis Option</b>	
a. 6.0 units from ENSC 430(Honours Projects in Environmental Sustainability) <b>or</b> ENSC 501(Independent Environmental Study)	
b. 12.0 units from BIOL at the 300-level or above; ENSC Specialization Options B	
c. 12.0 units from BIOL at the 300-level or above	
<b>Electives: 18.0 units</b>	

**NOTES:**

Students considering a thesis in Physiology should take BIOL 340 and/or 342  
 PHYS 104, 106 or PHYS 117 are strongly recommended.