

## Sustainable Ecosystems Biology

The Sustainable Ecosystems Biology focal area prepares students to address complex environmental challenges through research, conservation, and sustainable management practices. It may be of interest if you are considering careers involving:

- Ecological and botanical research
- Conservation and natural resource management
- Environmental consultancy
- Environmental education and outreach

Please note:

- **Inclusion on this list does not guarantee enrolment in courses that have Priority Access or other restrictions in place**
- This guidance document provides an optional framework for tailoring your electives to your career interests and professional goals
- You are responsible for selecting courses that meet degree requirements for the BIOS major
- Verify admission requirements for any further education programs you're considering

### A) Foundations

Common prerequisites for courses in this focal area, and/or relevant to all areas of application listed:

BIOL\*2060 Ecology  
BOT\*2100 Life Strategies of Plants  
GEOG\*2480 Mapping and GIS  
STAT\*2050 Statistics II  
BIOL\*3060 Populations, Communities and Ecosystems  
BIOL\*3130 Conservation Biology  
BIOL\*4150 Wildlife Conservation & Management  
BIOL\*4500 Natural Resource Policy Analysis

### B) Areas of Application

#### Aquatic Ecosystems

ZOO\*2090 Vertebrate Structure & Function  
ZOO\*2700 Invertebrate Morphology & Evolution  
BIOL\*3450 Introduction to Aquatic Environments  
ENVS\*3150 Aquatic Systems  
ENVS\*3290 Waterborne Disease Ecology  
BIOL\*4350 Limnology of Nat & Polluted Waters  
ZOO\*4300 Marine Biology & Oceanography  
ZOO\*4330 Biology of Fishes

#### Ecology and Biodiversity Conservation

ENVS\*2330 Ecosystem Science & Biodiversity  
ZOO\*2090 Vertebrate Structure & Function  
BIOL\*3450 Introduction to Aquatic Environments  
BOT\*3050 Plant Functional Ecology  
ENVS\*3000 Nature Interpretation  
ENVS\*3250 Forest Health and Disease  
BIOL\*4410 Field Ecology  
BIOL\*4700 Field Biology

## Environmental Science and Climate Change


ENVS\*1100 Fundamentals of Environmental Sciences  
GEOG\*1300 Intro to the Biophysical Environment  
GEOG\*1350 Earth: Hazards & Global Change  
GEOG\*2110 Climate & the Biophysical Environment  
GEOG\*3110 Biogeography  
STAT\*3510 Environmental Risk Assessment  
ENVS\*3010 Climate Change Biology  
P BIO\*4530 Plants & Environmental Pollution

## Managed Ecosystems and Agriculture

BIOL\*1050 Biology of Managed Ecosystems  
AGR\*2470 Intro to Plant Agriculture  
ENVS\*2040 Plant Health & the Environment  
ENVS\*2210 Apiculture & Honey Bee Biology  
BIOL\*3300 Applied Bioinformatics  
CROP\*3340 Managed Grasslands  
ENVS\*3020 Pesticides and the Environment  
ENVS\*3230 Agroforestry Systems

## C) Liberal Education and Transferable Skills

Additional skills and knowledge to help you explore interconnected sustainability issues, navigate regulatory processes, and effectively communicate complex topics and ideas.

- The BSc program and BIOS major include a limit on the number of 1000 level and non-science credits that can count toward the degree. See the [Academic Calendar](#) listing for full details
- DNA symbol (  ) marks approved science electives. These courses may not be counted toward the Liberal Education degree requirement




## Environment and Sustainability

GEOG\*1220 Explaining Environmental Change  
ENVS\*2120 Intro to Environmental Stewardship  
UNIV\*2200 Towards Sustainability  
GEOG\*2210 Environment and Resources

## Ethics and Social Responsibility

INDG\*1000 Indigenous-Settler Relations  
ENVS\*2070 Environmental Ethics & Perspectives  
PHIL\*2070 Philosophy of the Environment  
UNIV\*2010 Anti-Discrimination & Anti-Oppression

## Interpersonal Skills, Professional Relationships, and Communication

HROB\*2010 Foundations of Leadership  
BIOL\*3660 Internship in Biological Science   
BIOL\*4020 Integrative Problems in Biological Science   
HK\*4510/11/12 Teaching, Learning, and Knowledge Transfer 

## Public Policy and Economics

ECON\*1050 Introductory Microeconomics  
ECON\*2100 Economic Growth & Environmental Quality  
FARE\*2700 Survey of Natural Resource Economics  
POLS\*2230 Public Policy