

# BIOL 111 online

## COURSE DESCRIPTION

Introduces the basic concepts of ecology and shows how they relate to environmental issues such as population growth, resource management, biodiversity, agriculture, air and water pollution, energy, and climate change, and to solutions leading to a sustainable environment.

BIOL 111 introduces the basic concepts of ecology and demonstrates how these relate to topics such as human population growth, resource management, biodiversity, agriculture, air and water pollution, energy use and climate change. It is designed for students from a variety of backgrounds at all levels of post-secondary education and is recommended as a foundation course for students with an interest in ecology and the environment.

This course will expose students to the latest literature on ecology and the environment. The textbook is a solid introduction to the basic concepts in ecology and environmental science and will enable students to tackle more advanced readings in the scientific literature as well as in popular media. It is divided into a series of units that correspond to the 12 weeks of term, with each unit focusing on a different topic. Students will consider the social, political and economic challenges to environmental sustainability as they progress through the course.

## TOPIC SCHEDULE AT A GLANCE:

<b>Module 1</b>	Introduction to Environmental Science
<b>Module 2</b>	Ecosystems and Food Webs
<b>Module 3</b>	Evolution and Biodiversity
<b>Module 4</b>	Strategies for Sustaining Biodiversity
<b>Module 5</b>	Population Control, the Human Population and its Impact
<b>Module 6</b>	Strategies for Sustaining Terrestrial Biodiversity
<b>Module 7</b>	Strategies for Sustaining Aquatic Biodiversity
<b>Module 8</b>	Renewable and Non-renewable Energy
<b>Module 9</b>	Air and Water Pollution
<b>Module 10</b>	Climate Disruption and Ozone Depletion
<b>Module 11</b>	Social, Economic and Political Issues

## LEARNING OUTCOMES

By the end of the course, students will be better equipped to:

- Describe the basic principles of community ecology and population ecology
- Identify the main biomes on Earth and explain the factors that influence them
- Analyse the factors controlling human population growth in developed and developing countries
- Predict most likely future trends of current environmental problems and formulate potential solutions
- Describe the earth's renewable and non-renewable resources, their current status, the factors that influence them and explain how humans can use them in more sustainable ways
- Develop personal and interpersonal capacities in environmental studies: Collaboration, communication, ethical reasoning, and metacognitive skills
- Perform research related to environmental studies, write reports, and disseminate results to a general audience.

## EVALUATION:

Assessment	Weighting
Self-Assessment Quizzes	0%
Tests (3)	25%
Extinction Data Collection (Individual)	20%
Peer Teaching (Group)	15%
Debate/Controversial Issues - or - Greenwashing (Individual with Interaction)	10%
Multimedia Presentation (Individual)	20%
Reflection (Individual)	10%

**INSTRUCTOR:**

Laura Nagel, nagell@queensu.ca

**TEXTBOOKS AND MATERIALS:**

**Core Texts (required)**

The required textbook for this course can be purchased through [Queen's University Campus Bookstore](#).

*Living in the Environment*, 4<sup>th</sup> Canadian edition (2016) by C.E. Wolfe and G.T. Miller.

Additional supplemental material and access links will be made available electronically to students via the course site.

**TIME COMMITMENT:**

Students can expect to spend approximately 10 hours a week (120 hours per term) in study, listening and online activity for this course.