

# GEOGRAPHY AND PLANNING

## GPHY 102 - Physical Geography and Natural Resources



<b>Course Instructors</b>	Ian Strachan Christopher Omelon	<b>Email:</b> ian.strachan@queensu.ca c.omelon@queensu.ca
<b>Office</b>	Mackintosh-Corry Hall, Room D126 (IS) & D102A (CO)	
<b>Contact Time</b>	3 x 1 hour lecture/week; 1 x 1 hour lab/week	
<b>Format</b>	Lectures and lab periods	
<b>Class Assessment</b>	Lab assignments: 50% Lecture tests: 30% Final exam: 20%	

### COURSE OVERVIEW

This course introduces the major concepts studied in physical geography and natural resources. Processes and interrelationships between the atmosphere, hydrosphere, biosphere, and lithosphere at or near the Earth's surface are investigated to serve as a basis for understanding the nature and distribution of natural resources.

### LEARNING OUTCOMES

To complete this course, students will demonstrate:

- Knowledge of key concepts and laws governing physical geography / Earth system science (e.g., electromagnetic radiation, climatology and meteorology, geomorphology, hydrology, geography of soils, biogeography).
- Understanding of the processes giving rise to patterns and phenomena observed in the Earth system at local, regional, and global scales.
- Use and implementation of basic tools and techniques used by geographers to study spatial and temporal patterns (maps, remote sensing, GIS, statistics).
- Appreciation of the way humans are linked to as well as impact the Earth system (e.g., climate change, biodiversity, pollution, carbon, and nutrient cycling).

**COURSE TOPICS**

Introduction to physical geography; earth-sun geometry and seasons; global energy system and temperature patterns; atmospheric pressure, moisture, and weather systems; global climates and climate change; plant geography; Earth's structure, geologic time, the rock cycle; tectonic processes and landforms; weathering and mass movement; groundwater and karst systems; fluvial systems and landforms; glacial and periglacial processes and landforms; arid landscapes and aeolian processes; coastal processes and landforms; distribution and character of soils; relevance of physical geography to environmental issues.

**COURSE READINGS**

Arbogast, Ford & Dagesse, 2018. *Discovering Physical Geography, Canadian Edition*, John Wiley & Sons Canada.