

GEOG 2020 – A: Ecosystems of Canada

Instructor	Adam Kirkwood, PhD
Term	Winter 2025
Course Delivery	In-person
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COURSE DESCRIPTION

Canada boasts an impressive range of ecosystems, ranging from old growth forests of the Pacific Maritime to tundra of the Arctic Cordillera. This course covers the structure, function and classification of ecosystems, and the ecosystems found across Canada. We will review the various factors shaping Canadian ecosystems, including geology, hydrology, soils, and climate, and examine the processes occurring within ecosystems such as nutrient cycling and carbon storage. Throughout the course, reference to the relationship between humans and ecosystems will be made, including the impacts of climate change on Canadian ecosystems, resource extraction and management, and conservation practices. While there will be discussion about challenges faced by Canadian ecosystems, an equal amount of emphasis will be discussed regarding solutions. **Course prerequisites:** One of GEOG 1010, EARTH 1006, EARTH 1010, ISCI 1001.

EVALUATION

	Grade	Due Date
Assignment 1 – Exploring ecozones	15%	January 20, 2025
Assignment 2 – Biogeochemistry in ecosystems	15%	March 13, 2025
Assignment 3 - Poster	20%	March 27, 2025
Midterm	20%	February 24, 2025
Exam	30%	Formal exam period

TEXT

There is no required text for this course, but recommended reading materials are:

- 1) Dearden, P., & Mitchell, B. (2016). *Environmental change & challenge : a Canadian perspective* (Fifth edition.). Oxford University Press.
- 2) Christopherson, R. W., Byrne, M.-L., Giles, P., & Birkeland, G. H. (2016). *Geosystems : an introduction to physical geography* (Fourth Canadian edition.). Pearson.
- 3) Strahler, A. H., & Archibold, O. W. (2011). *Physical geography : science and systems of the human environment* (Fifth Canadian edition). J. Wiley & Sons Canada.
- 4) Stanford, Q. H. (2009). *Canadian Oxford world atlas* (6th ed.) [Map]. Oxford University Press.
- 5) Freedman, Bill. (2007). *Environmental science : a Canadian perspective* (4th ed.). Pearson Prentice Hall.