

McGill University
Department of Geography

GEOG 505 Global Biogeochemistry 2022

Instructors: Tim Moore, BH626, 3984961, tim.moore@mcgill.ca
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Class time: Monday 2:35 to 5:25 pm, normally BH426

Office hours: By appointment

Outline and Format

The course is open to graduate and advanced undergraduate (with permission) students.

Readings

Three books are of value for an overview of the material presented in the course:
Aber, J. and J. Melillo 1993. *Terrestrial Ecology* Saunders College Press.
Jacobson, M. C., R. J. Charlson et al. (eds.) 2003. *Earth System Science: From Biogeochemical Cycles to Global Change* International Geophysics Series. San Diego, Academic Press.
Schlesinger, W. and E. S. Bernhardt. 2013. *Biogeochemistry: An Analysis of Global Change* 3rd edition. Elsevier. (available as an ebook through the McGill Library: <https://www.sciencedirect.com/science/book/9780123858740>)
The main readings will be a series of papers, accessible through MyCourses

Grading

Paper summaries 30% (powerpoint presentation)
Group project 30% (written subsection, executive summary and seminar presentation)
Term paper 30% (paper and presentation)
Class participation 10% (quality and contributions to the discussion)

Schedule and Topics

Jan. 10 Wk1 Overview and introduction to global biogeochemical cycles
Jan. 17 Wk 2 Foundational papers (TRM & CvS)
Jan. 24 Wk 3 Global carbon cycle lecture allocation of papers to present
Jan. 31 Wk4 Carbon cycling 1: (student discussions) assemble budget groups
Feb. 07 Wk5 Carbon cycling 2: (student discussions)
Feb. 14 Wk6 N cycle lecture (TRM) and work on budget projects
Feb. 21 Wk7 N cycling 1 (student discussions)
Feb. 28 Reading week
Mar. 07 Wk8 N cycling 2 (student discussions) review budget group progress
Mar. 14 Wk9 Group biogeochemical 'budget' presentations
Mar. 21 Wk10 P cycle lecture (CvS), submit group budget reports
Mar. 28 Wk11 P cycling 1: (student discussions)
Apr. 04 Wk 12 P cycling 2: (student discussions)
Apr. 11 Wk13 Student symposium presentation of term papers

