

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

