

COURSE TITLE: LONG-TERM ENVIRONMENTAL CHANGE

COURSE NUMBER: BIOL-822

TERM OFFERED: 2159 FALL 2015

INSTRUCTOR: John Smol

CONTACT INFORMATION: BioSciences Complex Room 4307a

Phone: 533 6147 **Email:** smolj@queensu.ca

Office Hours: No set times

Meeting Room: BioSciences Complex, Room 3110

Meeting Times: Wednesdays at 9:30 – 12:30

Website: <http://post.queensu.ca/~biol822/>

OUTLINE OF TOPICS:

It is becoming increasingly clear that long-term environmental data are required to assess many global concerns. It is therefore not surprising that a large number of paleoenvironmental techniques and approaches are currently available to infer global and more local environmental changes. The main focus of this course will be to review and assess the many techniques currently available to track long-term environmental change. An emphasis will be placed on biological approaches dealing with sedimentary analyses, but other proxy methods (e.g. ice cores, tree rings, packrat middens, etc.) will also be covered. General topics will include climatic change, acidification, eutrophication, lake and reservoir management, UV penetration, contaminant transport, etc.

METHODS OF INSTRUCTION AND HOURS PER WEEK:

The class will typically meet for one 3-hour class a week. Time and location TBA. Formal lectures by the professor will be emphasized in the first part of the course, followed by presentations and discussions by the students.

EVALUATION:

Seminar #1: 10%

Term Paper: 65%

Seminar #2: 25%

TEXTBOOK:

Smol, J.P. 2008. Pollution of Lakes and Rivers: A Paleoenvironmental Perspective - 2nd Edition. Wiley-Blackwell Publishing, Oxford. 383 pp.

PREREQUISITE AND ASSUMED BACKGROUND:

None. An interest in long-term environmental change.