

Professor Eyles is on sabbatical in 2018 and the course will consist of 10 pre-recorded online lectures. The course will be managed by

It may not be the only way in which planet Earth functions however and there is increasing recognition of so-called ~~tb~~ involving giant mantle plumes of hot rock, and the outpouring of enormous volumes of magma (flood basalts, supervolcanoes etc.) when these plumes reach W K H (D U W K ¶ V V X U I D F H These are called Large Igneous Provinces (LIPs for short).

Lithospheric plates are formed at so-

events like large meteorite impacts that result in widespread extinctions, the concept has served geologists well. We shall examine the history of life on planet Earth and how it reflects broader tectonic and climatic events.

The course concludes by looking at the 4 billion years long geological history of Canada and Ontario including reference to modern environmental problems facing Canadians. We will look at the causes and impacts of climate change, mineral exploration and mining, the impact of urban development, disposal of a wide variety of wastes, the clean-up of contaminated sites and waters, and the key role that environmental geoscience plays in our society.

At the conclusion of this course you will NQRZ KRZ SODQH (DUWK μZRUNV regardless of your course of study. This knowledge is key to protecting our complex human world which is subject to natural disasters, the need to protect the environment and to find ever scarcer resources and extract them in an environmentally-sustainable fashion.

Course textbooks and other resources

The course is organized around the 5-part Geologic Journey- World series which DLUHGRQ & DQDGLDQ %URDGFVDWLQJ & RUSRUDWLRQ ¶V μ 2010 with David Suzuki and myself and ~~libBd~~. It is based on the geology of various parts of the world and you will need to watch these to supplement lectures.

The course textbook is Ontario Rocks - Three Billion Years of Environmental Change which frames the geological history of Ontario against what is known of modern plate tectonics. 7KH VXS SOPH HCRD OWH ¶W ¶L ¶ a brief (and inexpensive!) overview of the geology of southern Ontario and environmental issues arising from urban development μ7RURQ VARD 5RFNV ¶ Ontario Rocks ¶ are available from the bookstore.

In addition, <http://planetrocks.uts.utoronto.ca> is a web site detailing more than 700 hundreds sites of special geological or cultural importance across Ontario.

We would also ask you to take a look at ~~R&V~~ outside the Arts and Administration Building to honor the 50th Anniversary of the our campus, and which consists of about 50 large boulders of different rock types and accompanying interpretive signage that record changing environments across Ontario over the last 3 billion years. Remember rocks are memories of ancient environments and our only way of knowing what went on millions and billions of years ago.

Also take a look at the real time map of ~~¶~~ on the video display in the Atrium of our new Environmental Sciences and Chemistry building. 7KD W ¶ V our Earth at work right in front of your eyes.

Evaluation and marks

The course will be evaluated by:

a) Multiple-choice mid-term exam of 100 true/false and multiple choice questions based on lectures 1-