

# EESD20 – (Undergrads)

## Geological Evolution and Environmental History of North America

2023 Winter Term

University of Toronto Scarborough

Department of Physical and Environmental Sciences



Note: This is a cross-listed course with the graduate level course, EES1106. While the material is the same, the courses have different evaluation schemes.

### **Instructor**

Veronica Di Cecco, Sessional Lecturer, <https://www.linkedin.com/in/veronica-di-cecco-35795a49>

Email: [v.dicecco@utoronto.ca](mailto:v.dicecco@utoronto.ca) – If you ever have questions or concerns, please contact me by email and I will do my best to answer you in 24 hrs.

### **Teaching Assistant**

  
 will be handling much of the marking for the written components of this course, and I thank her in advance for her hard work.

### **Course Description**

This course reviews the geological and environmental evolution of the North American continent over the past 4 billion years by exploring the range of plate tectonics involved in continental growth and how those processes continue today. It will explore major changes in terrestrial and marine environments through geologic time and associated organisms and natural resources of economic importance and will conclude with an examination of recent human anthropogenic influences on our environment especially in regard to urban areas and associated problems of waste management, resource extraction, geological hazards, and the impacts of urbanization on watersheds and water resources.

An optional class field trip will involve a guided tour of the Royal Ontario Museum Teck Suite of Galleries: Earth's Treasures. This will take place on a Tuesday, when admission is free to students.

Prerequisite: 15.0 credits, including at least 4.0 credits at the C or D level

Exclusion: EESC21H3

Breadth Requirements: Natural Sciences

### **Learning Outcomes**

The aim of this course is to provide you with a context and deeper understanding of how the land we live on came to be. We will learn about geological processes and how this geological history influences “biological destiny.”

However, my learning goals for you are only half the picture. In the first few classes we will talk about what you want to get out of this course, and I will do my best to work in those topics.

### **Suggested Reading**

This textbook is the basis for the lectures and topics in this course and is available in the bookstore:

Eyles, N. and Miall, A. 2016. Canada Rocks: The Geologic Journey, 2<sup>nd</sup> Edition. Fitzhenry & Whiteside

If you do not have a background in geology, I highly recommend borrowing this book from the library. I will be working off the first edition but both editions can be used interchangeably.

### **Course Webpage**

We will use Quercus to access course notes, info and quizzes. Students are responsible for checking Quercus regularly for course updates and for checking your UofT email where occasional announcements may be sent.

### **Lectures:**

Classes will be held in person in IC 212.

Lectures will take place Wednesdays from 19:00 to 21:00.

Your attendance at lectures is expected and will be reflected in the quizzes. Lecture slides and presentations will be uploaded on Quercus.

**Evaluation:**

| <b>Assessment Title</b>        | <b>Percent (%)</b> | <b>Date(s)</b> |
|--------------------------------|--------------------|----------------|
| Quizzes                        | 20                 | 2022-01-18     |
|                                |                    | 2022-02-01     |
|                                |                    | 2022-03-01     |
|                                |                    | 2022-03-08     |
|                                |                    | 2022-03-29     |
| Mid Term Executive Summary     | 15                 | 2022-02-08     |
| Mid Term Presentation          | 20                 | 2022-02-15     |
| Final Project Outline/Proposal | 10                 | 2022-03-15     |
| Final Report                   | 20                 | 2022-04-05     |
| Final Presentation             | 15                 | 2022-04-05     |
| Total Percentage               | 100                |                |

**20%** - 5 short quizzes spread throughout the course. These will help me gauge your understanding so that I can adjust future lectures to suit.

**15%** - a two-page executive summary of your team mid-term project. Due February 8<sup>th</sup> during class time.

**20%** - a 20 minute team midterm presentation given in class on February 15<sup>th</sup>. Topics will be given out January 25<sup>th</sup>.

**10%** - Proposal for your final term project. Due in class March 15<sup>th</sup>.

**20%** - Final report due in class April 5<sup>th</sup>.

**15%** - Final individual presentations presented in class April 5<sup>th</sup>.

**Late deliverables will be deducted at a rate of 10% per day. Late quizzes will not be accepted.**

**Course Schedule**

| <b>Date</b> | <b>Lecture Plan</b>   | <b>Deliverables</b>                               |
|-------------|---|---|
| 11-Jan      | Scope of course, ice breaker, learning expectations. Planet formation | -   |
| 18-Jan      | Planet formation, plate tectonics and the rock cycle                  | Short Quiz at end of class (4%)                   |
| 25-Jan      | continental formation, Mid term project assigned                      | -   |
| 01-Feb      | The Canadian Shield   | Short Quiz at end of class (4%)                   |
| 08-Feb      | The Interior Platform - The Paleozoic Seas                            | mid term executive summaries due (15%)            |
| 15-Feb      | Mid term presentations  | mid term presentations (20%)                      |
| 22-Feb      | Reading week  | -   |
| 01-Mar      | Eastern Canada. Final Project Assigned                                | Short Quiz at end of class (4%)                   |
| 08-Mar      | Western Canada  | Short Quiz at end of class (4%)                   |
| 15-Mar      | Glaciation  | Final Project Outline Due (10%)                   |
| 22-Mar      | Mining in Canada  | -   |
| 29-Mar      | the Anthropocene and Climate Change                                   | Short Quiz at end of class (4%)                   |
| 05-Apr      | final presentations   | Final Report Due (20%). Final Presentations (15%) |

**Other Information**

On Equity, Diversity and Inclusion:

The University welcomes and includes students, staff, and faculty from a wide range of backgrounds, cultural traditions, and spiritual beliefs.

The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. U of T does not condone discrimination or harassment against any persons or communities.

#### On Accommodation:

The University provides academic accommodations for students with disabilities in accordance with the terms of the Ontario Human Rights Code. This occurs through a collaborative process that acknowledges a collective obligation to develop an accessible learning environment that both meets the needs of students and preserves the essential academic requirements of the University's courses and programs.

Students with diverse learning styles and needs are welcome in this course. If you have a disability that may require accommodations, please feel free to approach me and/or the Accessibility Services office. <https://www.utoronto.ca/ability/>

#### Religious observances

The University provides reasonable accommodation of the needs of students who observe religious holy days other than those already accommodated by ordinary scheduling and statutory holidays. Students have a responsibility to alert members of the teaching staff in a timely fashion to upcoming religious observances and anticipated absences and instructors will make every reasonable effort to avoid scheduling tests, examinations or other compulsory activities at these times.

Please reach out to me as early as possible to communicate any anticipated absences related to religious observances, and to discuss any possible related implications for course work.

#### Family care responsibilities:

The University of Toronto strives to provide a family-friendly environment. You may wish to inform me if you are a student with family responsibilities. If you are a student parent or have family responsibilities, you also may wish to visit the Family Care Office website at [familycare.utoronto.ca](http://familycare.utoronto.ca).

#### On Academic Integrity:

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously.

The [University of Toronto's Code of Behaviour on Academic Matters](#) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

##### *In papers and assignments:*

- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor in all relevant courses
- Making up sources or facts
- Obtaining or providing unauthorized assistance on any assignment

##### *On tests and exams:*

- Using or possessing unauthorized aids
- Looking at someone else's answers during an exam or test

- Misrepresenting your identity

*In academic work:*

- Falsifying institutional documents or grades
- Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes

All suspected cases of academic dishonesty will be investigated following procedures outlined in the *Code of Behaviour on Academic Matters*. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, please reach out to me. Note that you are expected to seek out additional information on academic integrity from me or from other institutional resources (for example, the [University of Toronto website on Academic Integrity](#)).

On Notification to Students if Recording Online Course Meetings

This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session.

Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation and are protected by copyright. Do not download, copy, or share any course or student materials or videos without the explicit permission of the instructor.

For questions about the recording and use of videos in which you appear, please contact your instructor.