

Geography 3315/ Geology 3130  
Glacial Systems  
Fall Term, 2015

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**Lectures:** Mondays, Wednesdays 11:30 – 1:00 in RB-2026

**Course Description:**

This course is an introduction to the topics of glaciology and glacial geomorphology. The understanding of the topic helps in our understanding of the geomorphology of approximately 30% of land surface that is, or has been affected by glaciation recently. It also helps us understand the relationships between ice and global, and local, hydrology. The impact of global climate change will be most visible in the changes observed in glacial landscapes but the impact of those changes will be felt across the globe – especially in coastal communities.

In this course we will study the nature and behaviour of glacial ice – the physics of ice formation (ex. mass balance) and movement. We will learn how glacial ice impacts the landscapes and to what extent. We will consider glacial landforms – depositional and erosional, and will learn how they are formed and under what conditions. Differences between alpine and continental glaciation – the process and the landforms – will also be highlighted.

We will also learn about the glacial history of the planet. Special emphasis will be placed on the glacial history of Canada and Northwestern Ontario.

**Course Objectives:**

Students will be expected to show thorough understanding of the following glacial systems concepts:

- Glaciers and Glacier Dynamics
- Distribution of Glaciers (modern and historical)
- Glacial Erosion
  - Processes
  - Landscapes and Landforms
- Glacial Deposition
  - Processes
  - Landscapes and Landforms

Glaciofluvial processes

Erosion

Deposition

Landforms

Time permitting:

Glacial history of Northwestern Ontario

**Textbook:**

Glaciers & Glaciation, 2nd Edition

Benn, D.I. and Evans, D.J.A., 2010, Hodder Education, 802 p.

**Course Grading:**

Progress Exam	20 %	(Oct. 21)
Midterm Exam*	30 %	(Nov. 18)
Final Exam*	50 %	

## Course Policies

The following course policies are consistent with those of the Geography Department and Lakehead University.

1. Regular attendance is expected in lectures.
2. Any absence due to illness, disability, or domestic affliction should be reported to the instructor. Absence due to extracurricular activities (e.g. athletics) should be discussed with the instructor **PRIOR** to the absence. If you miss a class, it is your responsibility to obtain the notes from a classmate. I can provide you with any handouts, but will not provide you a repeat of the lecture or my lecture notes.
3. Students with special needs should talk to me at the beginning of the course and register with the Student Success Centre.
4. Tardiness is frowned upon. Be late at your own risk.
5. Assigned readings, when provided, are to be read prior to the next lecture. This will allow you to get the most out of the lectures and ask informed questions.
6. Questions may be asked **anytime** during lectures. I won't be offended.
7. No make-up exams will be given without a medical excuse backed by a medical certificate. No one will be allowed to write the tests or the final exam **prior** to the scheduled date.
8. Progress marks will not be posted as per University regulations pertaining to the Privacy Protection Act. In order to obtain up-to-date grade status you must contact me directly or email me from your registered LU account ( @lakeheadu.ca domain name ).