PURPOSE OF THE COURSE
To review, at an advanced level, current ideas about: (1) the formation, growth and decay of glaciers and ice sheets; (2) glacial environments and processes including those active in subglacial, proglacial, glaciolacustrine, and glaciomarine settings; (3) modes of glacial erosion and resultant landforms; (4) differentiation of sediments and landforms created by various subglacial processes; (5) analysis of glacial landscapes and reconstruction of past glacial depositional processes. Glacial deposits ranging in age from Precambrian to recent will be examined.

The course aims to provide students with the intellectual skills and background required to understand modern glacial processes and to reconstruct glacial environments and depositional histories from the rock and sediment record. Students will develop skills in the areas of map and data analysis, problem solving, teamwork, critical reading and evaluation, inquiry-based learning, report writing and oral presentation. The course introduces students to research and information retrieval, data analysis and synthesis, core logging and recording techniques, and field report preparation.

OPTIONAL TEXT
Benn, D.I. and Evans, D.J.A. 2010. 
An in-depth coverage of glacial processes, environments and sediments.
*Both the first and second editions are on reserve at Thode Library*

You will also be directed to locate and read relevant articles in online scholarly journals through Avenue.

WEB SOURCES
Excellent images of glaciers and a great ‘Photoglossary’ can be found at:

The ‘downloadable’ version of Hambrey, M. J. & Harland, W. B., 1981. Earth's pre-Pleistocene glacial record. Cambridge University Press, 1004 + xv pp. is available at:
http://www.aber.ac.uk/glaciology/epgr.htm

Data sets, glacier images and information can be obtained at: http://nsidc.org/

LAB SCHEDULE
There will be four lab assignments. All assignments will have multiple deliverables. All necessary information will be shared in class and on Avenue. Check Avenue for schedule and room numbers.

*All labs due dates will be made clear when the labs are assigned.* Late submissions will be penalized by 25% per day.
COURSE MARKING SCHEME

| Assignment #1  | 10 |
| Assignment #2  | 25 |
| Assignment #3  | 15 |
| Assignment #4  | 15 |
| Class participation | 5 |
| Final examination (essay type) | 30 |
| **Total**        | **100** |

Course Guidelines and Regulations

1. **Contacting the instructor** – With respect to email, it is checked regularly, however, if you are emailing outside of regular business hours (i.e., Monday to Friday 8:30 am – 4:30 pm), please do not expect a response until the next business day. *Waiting for an email response does not constitute a valid reason for a late submission.*

2. **Course preparation** – Be advised that in general you will be required to dedicate at least 2 hours of preparation/study per hour of class/lab time. More preparation will help you make the most out of the course, and will undoubtedly lead to a higher grade. If for any reason you are having trouble with the course, see a member of the instructional team as soon as possible. Problems that are identified early can often be rectified.

3. **The role of TAs in this course** – The TAs in this course are there to assist you in your lab slot. If you choose to not attend your lab, you have forfeited your opportunity to get help from your TA until you come to your next lab session. Should the TA need to be contacted, email is the preferred method. In the event that lab sessions are cancelled, your TA will be available via email for that week to assist you.

4. **Handing in assignments** – You need to complete all course assignments, which are collectively worth 65% of your final grade. Paper copies of your assignments must be handed in to the internal departmental course drop box, which is on the 2nd floor of the General Sciences Building around the corner from the School of Geography and Earth Sciences Main Office (GSB 206) on dates and times as indicated on the assignment. Assignments handed in at any other time beyond this are considered late. At 4:30 pm, the external doors to the School lock, and any assignments should be submitted to the external drop box outside the doors to the School on the west side of the 2nd floor of the General Sciences Building. Late assignments are penalized at the rate of 20% for the first day and 20% for each subsequent day they are overdue, including weekends. Late assignments will only be graded if they are handed in no later than five days after the original submission deadline. After this time, you will receive a grade of zero. If you are late in submitting an assignment, you must send a digital copy to your TA so that we will know when the assignment was completed. Please ensure that a paper copy is then submitted immediately to the drop box for grading. This copy cannot be different in any way to the digital submission. The paper copy will be graded with all late penalties applied up until the digital copy was submitted.

5. **Mark appeals** – The TAs and I will make every effort to provide you with a grade that best reflects the quality of your work, and re-marking will be conducted at discretion. If you wish to have your work (assignment or midterm exam) re-marked, you will be asked to explain in writing, within at most five business days after the work is initially returned, the reasons why it should be reviewed and the mark changed by the instructor or TA. The first person to contact for clarification is the person who marked the work.. Please note that re-marking may result in a higher or a lower grade.

6. **Missed work** – If you are seeking relief for missed academic work because of a minor medical situation lasting up to three days, you may report your absence, once per term, without documentation, using the McMaster Student Absence Form (http://www.mcmaster.ca/msaf/).
When using the MSAF, report your absence to your instructor (maclacjc@mcamster.ca), NOT your TA. Please note that the MSAF is simply a request for relief and that the nature of relief, if any, is left to the instructor’s discretion. This will be handled on a case-by-case basis. Once the form is filled out, you must contact the instructor by email (maclacjc@mcamster.ca) immediately in order to make necessary arrangements for making up missed work. Absences lasting more than three days or for reasons unrelated to a medical situation must be reported to your Faculty Office. Please note that you must complete all assignments for this course and in no situation will assignment marks be reallocated to the final exam. An MSAF does not mean you do not have to hand the assignment in. It is due the day your MSAF form ends at 9:00am to the GSB dropbox.

7. **Students with special needs** – If you have (or suspect you may have) a learning disability that may require accommodations, you are advised to contact Student Accessibility Services (McMaster University Student Center Basement, Room B107, Tel. 905-525-9140, ext. 28652). Accommodations are arranged exclusively through this service (http://sas.mcmaster.ca/). Please note that all accommodation forms must be submitted to the instructor prior to any course deliverables being due. Forms submitted after the fact will not be considered for the past due deliverable.

8. **Academic dishonesty** – All students are reminded of the seriousness of academic dishonesty. Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy (specifically Appendix 3, located at http://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicIntegrity.pdf). Plagiarism (e.g., the submission of work that is not one’s own or for which other credit has been obtained), improper collaboration in group work, and copying or using unauthorized aids, tests, and examinations are examples of academic dishonesty.