



COURSE OUTLINE

GEOL 102

GEOMORPHOLOGY

**81 HOURS
3 CREDITS**

PREPARED BY: _____
Mary Samolczyk, Instructor

DATE: _____

APPROVED BY: _____
Margaret Dumkee, Dean

DATE: _____

YUKON COLLEGE

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Course Outline prepared by Mary Samolczyk, 07 July 2015.

Yukon College
P.O. Box 2799
Whitehorse, YT
Y1A 5K4

APPLIED SCIENCE AND MANAGEMENT DIVISION
GEOLOGY 102
3 Credit Course
Fall 2015

GEOMORPHOLOGY

INSTRUCTOR: Mary Samolczyk

OFFICE HOURS: Wednesdays (1:00–2:30 pm), or by appointment

OFFICE LOCATION: A2806 (inside A2805)

CLASSROOM: TBA

E-MAIL: msamolczyk@yukoncollege.yk.ca

TIME: Lectures: (M/W) 10:30 – 12:00 pm
Lab: (Th) 1:00 – 4:00 pm

TELEPHONE: (867) 668-8898

DATES: Sept. 9, 2015 – Dec. 4, 2015

COURSE DESCRIPTION

Geology 102 addresses surface and near-surface geological processes and deposits, and their implications for land use and present, past, and future landscape development. Students are introduced to a wide range of introductory geomorphology topics such as weathering, glacial and fluvial processes and landforms, mass wasting, and tectonic controls on landforms. Topical issues in geomorphology in the Yukon and northern Canada are discussed in detail, including (1) the impact of climate change on periglacial environments and human infrastructure, and (2) the relationship between glaciofluvial systems and the placer mining industry. Laboratory instruction includes soil classification, surficial deposit identification, map and air photo literacy, and hydrological monitoring.

PREREQUISITES

Admission to the Geological Technology, Science, or Northern Science programs; and/or permission from the instructor.

EQUIVALENCY OR TRANSFERABILITY

There are no established course transfer agreements for GEOL 102.

LEARNING OUTCOMES

Upon successful completion of the course, students will be able to:

- Analyse the role of active and ancient Earth surface processes in landform evolution, including weathering and soil formation.
- Apply the basic concept of a balance between driving and resisting forces shaping landforms.
- Evaluate the geomorphic and climatic significance of anthropogenic activities.
- Identify a variety of landforms on the ground and using topographic maps, aerial photographs, and satellite imagery.
- Analyse the relationships between precipitation, surface water and groundwater systems.
- Understand surficial geology processes unique to northern latitudes and the implications of changing environmental conditions.

DELIVERY METHODS/FORMAT

This course consists of two 90-minute lectures and one 3-hour lab period per week. Laboratory exercises will be conducted in both laboratory and field settings.

COURSE REQUIREMENTS/EVALUATION

Attendance and Participation

Students are strongly encouraged to attend all lectures and laboratory exercises. Lab exercises can be completed only during class time and materials may not be available outside those hours. Off-campus field exercises must be completed during the allocated time with the instructor present.

Assignments

Weekly lab exercises will be due at the start of the following lab section. All lab exercises will require a write-up from the student, with length appropriate to the exercise completed. As some labs will require more than a single week, deadlines for each lab write-up will be announced at the start of each new module. Three writing assignments will be due over the course of the term and will focus on current research and literature in geomorphology.

<i>Tests and Assignments</i>	<i>Weight</i>	<i>Dates</i>
Weekly Lab Assignments	35%	Due at the start of each subsequent lab exercise.
Midterm Test*	15% (or 5%)	During lecture class time.
Final Lab Exam	15%	During schedule lab time in the final week of classes.
Final Lecture Exam*	20% (or 30%)	During exam period, as scheduled by registrar.
Writing Assignments (3)	15% (5% each)	Completed outside of class time.
Total	100%	

* The test weighting scheme that is most advantageous to the student's final grade will be chosen.

The letter-grading scheme used in this course is the Yukon College standard scheme. Final grades will be rounded up to the nearest decimal place and assigned a letter grade based on this scheme. Grades will not be raised in order to facilitate a better overall grade standing at the end of the course. Final grades will be changed in the event that an error in grade addition or entry occurs. In such a case, students are asked to contact the instructor immediately. The College policy on grading and related matters is described in the "Student Evaluation, Grades, and Records" section of the current College Calendar.

Any student who is absent from a test or exam for legitimate reasons will be eligible to write a deferred exam. Please note that excuses such as car trouble, vacation travel, oversleeping, and misreading the test schedule are not considered legitimate reasons and do not qualify the student for a deferred exam. For missed midterm tests, the student must contact the instructor within 48 hours of the missed test by phone or email. For missed final exams, students must contact the Chair of the School of Science. Any deferred exams will be scheduled by the Chair.

REQUIRED TEXTBOOKS/MATERIALS

Geomorphology: A Canadian Perspective by A.S. Trenhaile. Fifth edition (2012). Oxford University Press Canada, Don Mills, Ontario. ISBN-13: 978-0195446054.

PLAGIARISM

Plagiarism is a serious academic offence. Plagiarism occurs when students present the words of someone else as their own. Plagiarism can be the deliberate use of a whole piece of another person's writing, but more frequently it occurs when students fail to acknowledge and document sources from which they have taken material. Whenever the words, research or ideas of others are directly quoted or paraphrased, they must be documented according to an accepted manuscript style (e.g., APA, CSE, MLA, etc.). Resubmitting a paper which has previously received credit is also considered plagiarism. Students who plagiarize material for assignments will receive a mark of zero (F) on the assignment and may fail the course. Plagiarism may also result in dismissal from a program of study or the College.

ACADEMIC ACCOMMODATION

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon College Academic Regulations (available on the Yukon College website). It is the student's responsibility to seek these accommodations. If a student requires an academic accommodation, he/she should contact the Learning Assistance Centre (LAC) at (867) 668-8785 or lassist@yukoncollege.yk.ca.

TOPIC OUTLINE

Lecture #	Date	Topic
1	09/09/15	Introduction to geomorphology
2	14/09/15	Soils
3	16/09/15	Soils
4	21/09/15	Fluvial processes and landforms
5	23/09/15	Fluvial processes and landforms
6	28/09/15	Introduction to hydrogeology
7	30/09/15	Glacial processes and landforms
8	05/10/15	Glacial processes and landforms ***** 1st article due *****
9	07/10/15	Periglacial processes and landforms
THANKSGIVING	12/10/15	No lecture
10	14/10/15	Periglacial processes and landforms
11	19/10/15	Aeolian processes and landforms
MIDTERM	21/10/15	No lecture
12	26/10/15	Tectonic geomorphology
13	28/10/15	Tectonic geomorphology
14	02/11/15	Mass wasting ***** 2nd article due *****
15	04/11/15	Mass wasting
16	09/11/15	Coastal geomorphology
REMEMBRANCE DAY	11/11/15	No Lecture
17	16/11/15	Coastal geomorphology
18	18/11/15	Dating methods
19	23/11/15	Environmental change
20	25/11/15	Geohazards and landscape mapping ***** 3rd article due *****
21	30/11/15	Placer geology (GUEST LECTURE)
22	02/12/15	Surficial geology of Yukon

LAB SCHEDULE AND GRADING SCHEME

Lab #	Date	Topic	Grade
1	17/09/15	Introduction to soil classification (field exercise)	3%
2	24/09/15	Introduction to applied hydrology (field exercise)	3%
3	01/10/15	Whitehorse surficial geology (field exercise)	3%
5	15/10/15	Grain size analysis lab	5.5% (full write-up)
	22/10/15	No lab	0% (attendance only)
6	29/10/15	Mass wasting activity	3%
7	05/11/15	Dating techniques	3%
8	12/11/15	Groundwater models	3%
9	19/11/15	Introduction to air photo interpretation	3%
10	26/11/15	Mapping surficial deposits and hazards	5.5% (full write-up)
Exam	03/12/15	Final laboratory exam	N/A

* Outdoor labs will require a clipboard, sturdy footwear (e.g. hiking boots), and weather appropriate clothing.