

**Rivers: Environment and Process**  
**GEOG 4600**  
**Winter, 2019**

**Lectures**      Monday 9:30 – 10:30 – Location: Ross N201

**Lab**              Friday 9:30 to 11:30 – Location: To be announced

**Instructor**

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**Teaching Assistant**

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**Course Description**

Provides fundamental knowledge of river mechanics and related environmental conditions. It provides an integration of physical, environmental and spatial aspects of river behaviour. The course involves the application of principles of hydrology, geomorphology, sedimentology and fluid mechanics.

**Course website**

GEOG4600 will have an active Moodle environment that will be your primary hub for all information related to the course. Please check Moodle regularly for the most up to date course information and news.

**Tentative Schedule and Topics for the Course**

(Subject to modification)

**Lectures:**

<b>Date</b>	<b>Class Topic</b>
January 7	Class Introduction
January 14	Introduction to Fluvial Processes
January 21	Water Flow pt. 1
January 28	Water Flow pt. 2
February 4	<b>Quiz 1</b> Fluvial Sediments pt. 1
February 11	Fluvial Sediments pt. 2
February 18	Family Day / Reading Week – <b>No class</b>
February 25	Bedforms pt. 1

March 4	Bedforms pt. 2
March 11	<b>Quiz 2</b> Channel Shape Considerations
March 18	Channels and Aquatic Habitat
March 25	The Hyporheic Zone
April 1	<b>Quiz 3</b> Final Thoughts

### **Labs:**

<b>Week</b>	<b>Dates</b>	
1	Jan 4	No lab
2	Jan 11	Intro to the labs – Site C Dam Project introduction
3	Jan 18	Site C Dam Project Introduction / Group Assignment
4	Jan 25	Site C Dam Project feedback
5	Feb 1	No lab – open group work time
6	Feb 8	Site C Dam Project Defense!
7	Feb 15	Canadian Hydrology Project introduction
	Feb 22	Reading week
8	Mar 1	Canadian Hydrology Project – mandatory feedback
9	Mar 8	Canadian Hydrology Project seminars – week 1
10	Mar 15	Canadian Hydrology Project seminars – week 2
11	Mar 22	Canadian Hydrology Project seminars – week 3
12	Mar 29	No lab – Hydrology Project research paper due by midnight

### **Quizzes / Testing**

There will be three quizzes in GEOG4600, spaced out throughout the term. Each quiz will cover 3 – 4 lectures of material, and be based only on lecture content and any associated readings (no lab material). The best 2 out of 3 quizzes will count towards your final mark (the lowest will be dropped). There will be no make-up quizzes, if one is missed. Each of the two quizzes will account for 10% of your final mark, for a total of 20%. There is no final exam for GEOG 4600.

### **Assignments**

#### *Canadian Hydrology Project*

For this individual assignment, you will design and carry out an original research project using the wealth of Historical Hydrometric Data available from the Water Survey of Canada. This assignment will be carried out over several weeks of class as a semi-directed, individual project, encompassing a research paper and an in-class seminar presentation. The formal research paper will be due, uploaded to Moodle at the end of the day of the final lab, on March 29 (there is no lab this day). You will also present a research seminar on the topic, in lab, during one of the last three weeks of the lab schedule (exact slots to be determined). This assignment is worth 40% of your final mark, split between the seminar (15%), the research paper (20%), and the feedback session / seminar attendance (5%).

### *Site C Dam Project*

This project will explore the issues surrounding the contentious “Site C” hydroelectric dam project in British Columbia, which you may be familiar with. This project will occupy the first 5 weeks of class, and be introduced in lab 1. The project will culminate with a “trial / defense” in front of judges (Josh and Brad), where you will demonstrate what you have learned about the topic. This assignment is worth 40% of your final grade. 10% of that will be individual, based on a directed assignment that will be explained in lab 1, and be due in lab 2. 15% will be based on a group summary briefing note, handed in at the same time as the trial defense, on Feb 8. 15% will be based on the activities associated with the trial defense on Feb 8.

### **Marks Breakdown Summary**

Quizzes (Best 2 out of 3)	20%
Canadian Hydrology Project	40%
Paper	25%
Seminar	15%
Feedback session / seminar attendance	5%
Site C Dam Project	40%
Introduction / Research	10%
Group Summary Note	15%
Trial Defense	15%

### **Grades**

90-100: A+	60-64: C
80-89: A	55-59: D+
75-79: B+	50-54: D
70-74: B	40-49: E
65-69: C+	0-39: F

### **Course and University Policies**

#### *Late assignments:*

Late assignments will receive a deduction of 10% per day, unless a doctor’s note is provided. Requests for extension, accompanied by appropriate documentation, must be made via email to the course director prior to the due date of the assignment. The teaching assistant will not grant extensions.

#### *Missed quizzes:*

There will be no make-up quizzes, if you miss one for any reason. As your mark on the quizzes in the class is based on the best 2 out of 3 results, a single missed quiz will likely account for your lowest (dropped) quiz mark.

#### *Plagiarism:*

The University policy on academic honesty and plagiarism can be found at the following link, which I expect you to review.

<http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>

As well, please see the online tutorial at: <https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/>

### **Resources**

#### *Counseling and Disability Services*

N110 Bennett Centre for Student Services

416-736-5297

<http://cds.info.yorku.ca/>

-York provides psychological and academic support services to all students, including personal counselling, crisis response and support, assistance in the development of learning skills, and specialized support for students with learning disabilities

#### *Geographic Resource Centre (GRC)*

S403 Ross Building

- The GRC is a quiet research and study facility for students in the Dept. of Geography. Computers are available for student use, including internet access, access to digital course material, and MS Office software. Various Biogeography textbooks are also available should students want to supplement their learning in the course.

#### *Social Media*

The Department of Geography at York University maintains an active social media presence to communicate with students:

Facebook: <https://www.facebook.com/YorkUGeography/>

Twitter: <https://twitter.com/YorkGeography>