

**GEOGRAPHY 370:
HYDROLOGY**

DEPARTMENT OF GEOGRAPHY, UNIVERSITY OF VICTORIA

Course outline – Spring 2015

GENERAL INFORMATION

Dr. Shannon Fargey
Office: DTB B308
Email: fargey@uvic.ca
Tel: 250-721-7342

Office hours: Monday 10:00 am to 12:00 pm
Thursday 2:00 pm to 3:00 pm
or by appointment

Lecture Information:

Time: Tues, Wed – 4:30 pm -5:50 pm
Location: DTB A104

Laboratory Information (*Section, Weekday, Time, Location*)

A01	W	10:30 am -12:20 pm	Business & Economics Building Lab
A02	R	4:30 - 6:20 pm	Business & Economics Building Lab
A03	F	8:30-10:20 am	Business & Economics Building Lab

Contact information for the TA will be provided on CourseSpaces.

COURSE DESCRIPTION

This course provides an overview of hydrological processes, measurement techniques and data analysis. The movement of water in the hydrologic cycle via precipitation, interception, evapotranspiration, surface runoff, infiltration, soil moisture, groundwater flow and streamflow generation will be examined. Applied aspects and local examples will be discussed. Lecture material is complimented by laboratory assignments and a field trip (hopefully!).

PREREQUISTIES

GEOG 272 or EOS 340

Note: 1.5 units of 100-level math, statistics and/or a computing course is strongly recommended. The laboratory assignments are numerically intensive at times and require familiarity with a spreadsheets or statistical graphing software such as MS Excel.

EVALUATION CRITERIA

Labs (6) = 50%

Midterm Test = 20% February 19^h during lecture period

Final Exam = 30% - Date/Time TBA

You must obtain a passing grade (i.e., $\geq 50\%$) in both the lecture and lab components to pass the course.

Exam format will include a combination of short-answer and multiple-choice questions. The questions for the term tests and final exam will be based on lectures, assigned readings, learning resources and class discussion. The term tests will cover only the topics discussed immediately preceding it. The final exam is comprehensive, although may be weighted more heavily on material not previously tested on.

FINAL GRADE ALLOCATION:

A+	A	A-	B+	B	B-	C+	C	D	F
90-100%	85-89%	80-84%	75-79%	70-74%	65-69%	60-64%	55-59%	50-54%	<49%

REQUIRED TEXTBOOK

Hendriks, M.R. (2010). Introduction to Physical Hydrology. Oxford University Press (available at the University Bookstore)

In addition, a list of supplemental readings and learning materials will be posted on CourseSpaces throughout the term.

COURSE COMMUNICATION

CourseSpaces learning management systems (LMS) will serve as the main avenue of communication in this course (<http://coursespaces.uvic.ca>). Please monitor the page on a regular basis for course announcements, readings assignments and lecture handouts. If you are having difficulty logging in or password problems, contact the Computer Help Desk Email: helpdesk@uvic.ca, Tel: 250-721-7687

LECTURE HANDOUTS

Topic handouts *based* on lecture presentations will be provided. They will be posted on CourseSpaces the evening before the next lecture. Topic handouts will be removed 7 days after the posting date. Students are responsible for downloading/saving and completing notes packages. If you miss any material, make arrangements to get handouts from a fellow student, not from instructor!

IMPORTANT COURSE POLICIES

- Students must complete all evaluation components to obtain credit.
- Students must obtain a passing grade (i.e., $\geq 50\%$) in both the lecture and lab components to pass the course.
- Failure to complete an assignment (lab) or exam (midterm or final), without permission from the instructor, will result in an 'N' grade, which equals a Grade Point Value of 0

Missed exams:

- Students will not be permitted to write make-up tests except for documented medical or compassionate reasons. Please inform the instructor of your situation promptly and present written proof within five (5) working days.
- Any make-up test or examination may not follow the same format as the in-class one.
- Conflicts with holidays or travel plans are not considered an acceptable reason to apply for a deferred examination.

Lab assignments:

- Late assignments will be penalized 20% per day (including weekends and holidays). Exceptions will only be granted for documented medical or compassionate reasons. Only the course instructor can grant exceptions.
- All assignments must be submitted to write the final exam.
- Details regarding your labs and their marks are managed by the course TA. Please discuss any issues on labs with your TA first.
- Please attend only the laboratory section for which you are registered. If you must miss a lab for exceptional circumstances please make arrangements with your TA in advance to attend another section.
- Conflicts with holidays or travel plans are not considered an acceptable reason to apply for an assignment extension.

STUDENT RESPONSIBILITIES

- A high level of student cooperation and participation, involving asking and answering questions during the lectures.
- *Cell phones and portable music players must be turned off or silenced during lectures. Students are also required to remove earphones.*
- Students are expected to be punctual for classes.
- Students are required to attend all lectures and take notes. Not all material provided in the lecture handouts is covered in assigned readings and learning resources.
- Not all assigned readings and learning resources will be covered in the lectures but may be covered in the exams.

CLASS CLIMATE

The University of Victoria is committed to promoting, providing and protecting a positive and safe learning and working environment for all its members.

The University of Victoria has made a conscientious effort to increase diversity in the student, staff and faculty member populations. To ensure that all class members feel welcomed and equally able to contribute to class discussions, we will all endeavour to be respectful in our language, our examples, and the manner in which we conduct our discussions and group work. If you have any concerns about the climate of the class, please contact me.

ACADEMIC INTEGRITY

Academic dishonesty (plagiarism, cheating) is a very serious matter in any academic institution and is dealt with severely at the University of Victoria.

The responsibility of the institution: Instructors and academic units have the responsibility to ensure that standards of academic honesty are met. By doing so, the institution recognizes students for their hard work and assures them that other students do not have an unfair advantage through cheating on essays, exams, and projects.

The responsibility of the student: Plagiarism sometimes occurs due to a misunderstanding regarding the rules of academic integrity, but it is the responsibility of the student to know them. If you are unsure about the standards for citations or for referencing your sources, ask your instructor.

Infractions will be dealt with in accordance with University policy. Commonly, the penalty for any form of cheating/plagiarism is a grade of F on the tests or laboratory assignments, or a final grade of F in the course. However, depending on the severity of the case other penalties may include a record on the student's transcript or expulsion. Please familiarize yourself with the University policy on academic integrity found in the Undergraduate Calendar at the following website. Please contact me if you have any questions. (<http://web.uvic.ca/calendar2011/FACS/UnIn/UARe/PoAcI.html>)

STUDENTS WITH A DISABILITY

If you have any type of disability, there are support systems, resources, and accommodation actions available to you. If you wish to access any of these supports, resources or accommodations, I encourage you to contact the Resource Centre for Students with a Disability (<http://www.uvic.ca/services/rcsd/>) to ensure your success in this course. Please note that you are under no obligation to disclose your disability.

COURSE EXPERIENCE SURVEY

I value your feedback on this course. Towards the end of term, as in other courses at UVic, you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). The survey is vital to providing feedback to me regarding the course and my teaching, as well as to the department improve the overall program for students in the future. The survey is accessed via MyPage and can be done on your laptop, table, or mobile device. I will remind you and provide you with more detailed information nearer the time but please be thinking about this important activity during the course.

TENTATIVE LECTURE SCHEDULE*

(Week, Topic, Subject)

Jan. 5-9	Introduction	<i>Introductory concepts of physical hydrology</i>
Jan. 12-16	Atmospheric water	<i>Hydrological and energy cycle</i>
Jan. 19-23		<i>Hydrological and energy cycle cont.</i>
Jan. 26-30	Surface Water I	<i>Water vapour and clouds</i>
Feb. 2-6		<i>Precipitation processes</i>
Feb. 9-13	Groundwater	<i>Areal precipitation estimates</i>
Feb. 16-20		<i>Soils and vegetation</i>
Feb. 23-27		<i>Evaporation and transpiration</i>
Mar. 2 -6		<i>Water pressure and potential</i>
Mar. 9-13	Surface Water II	<i>Soil moisture: definitions, properties and movement</i>
Mar. 16-20		Reading Break – No classes
Mar. 3-27		<i>Review and Midterm exam</i>
Mar. 30-Apr. 3		<i>Groundwater fundamentals: aquifers and aquitards, more on pressure and potential</i>
	Special Topics and Connections	<i>Hydraulic conductivity and permeability</i>
		<i>Darcy's Law</i>
		<i>Groundwater flow regimes</i>
		<i>Groundwater as a resource: human and engineering issues</i>
	Snow Hydrology	<i>Lakes, ponds, rivers and streams</i>
		<i>Hydrological catchments</i>
	Special Topics and Connections	<i>Runoff processes</i>
		<i>Measuring stage, water velocity and discharge</i>
	Special Topics and Connections	<i>Hydrograph analysis</i>
		<i>Snow on the landscape</i>
	Special Topics and Connections	<i>Snow properties</i>
		<i>Effects of snow on catchment hydrology</i>
	Special Topics and Connections	<i>Climate change and the hydrology cycle</i>
		<i>Water resources management</i>
	Special Topics and Connections	<i>Final concepts, course summary and review</i>
		<i>Final concepts, course summary and review</i>

* dates and topic/subject schedule may change

GEOG 370 - LAB INFORMATION

LAB ASSIGNMENTS INFORMATION

Lab assignments are due at the beginning of your lab and will be deducted for every day late thereafter. Late assignments will be penalized 20% per day (including weekends and holidays). Exceptions will only be granted for documented medical or compassionate reasons. Only the course instructor can grant exceptions.

LAB ASSIGNMENT SCHEDULE

*Week, Date, Schedule**

1	January 5-9	No Lab
2	January 12-16	Lab 1 – Hydrological Cycle
3	January 19-23	Lab 2 – Watershed and areal estimation of precipitation Lab 1 report due at beginning of lab session
4	January 26-30	Lab 2 - continued
5	February 2-6	Lab 3 – Water vapour and evapotranspiration Lab 2 report due at beginning of lab session
6	February 9-13	Reading Break (No lab)
7	February 16-20	Lab 3 – continued
8	February 23-27	Lab 4 – Water balance model Lab 3 report due at beginning of lab session
9	March 2-6	Lab 5 - Groundwater Lab 4 report due at beginning of lab session
10	March 9-13	Lab 5 – continued
11	March 16-20	Lab 6 - River discharge Lab 5 report due at beginning of lab session
12	March 23-27	Lab 6 - continued
13	March 30-April 2	Lab 6 report due at beginning of lab session ¹ ¹ A03 lab section – Lab 6 report due 4:00 pm April 2

** Please confirm with the lab instructor regarding dates and due dates of lab assignments*