



COURSE OUTLINE

1. **Course:** GLGY 505, Contaminant Hydrogeology - Winter 2019

Lecture 01: TR 12:30 - 13:45 in SA 129

Instructor	Email	Phone	Office	Hours
Jordan Hollman	TBA	TBA	TBA	TBA

Instructor, Jordan Hollman, Office: TBA, e-mail address, jordan.hollman@ucalgary.ca.
Office Hours: 14:00-15:00 Thursdays

TAs: Laura Morgan (lrmorgan@ucalgary.ca, EEEL 141B),
Dylan Cunningham (dzcunnin@ucalgary.ca, ES272),
Glenn Hall (glenn.hall1@ucalgary.ca, EEEL 141B),
TA Office hours: By appointment.

Course website or Desire 2 Learn (D2L) GLGY 505 Contaminant Hydrogeology
Geoscience Department ES118, 403-220-5841, geoscience.ucalgary.ca, geoscience@ucalgary.ca

Course Site:

D2L: GLGY 505 L01-(Winter 2019)-Contaminant Hydrogeology

Note: Students must use their U of C account for all course correspondence.

2. **Requisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

Prerequisite(s):

Geology 401 or 601 and Geology 403 or 503.

Antirequisite(s):

Credit for both Geology 505 and Geology 609 will not be allowed.

3. **Grading:**

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Component(s)	Weighting %	Date
Assignments & Labs (8; Prob Set 3 worth double)	30	
Project	15	
Midterm exam	20	Feb 14, 2019
Final examination (Registrar-scheduled)	35	

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Minimum % Required	95 %	90 %	85 %	80%	75%	70 %	65 %	60%	56%	53 %	50 %

This course has a registrar scheduled final exam.

Grading: The University policy on grading and related matters is described sections F.1 and F.2 of the online University Calendar.

All lecture exams are mostly short answer type questions including numerical calculations from the lab. Note that all the materials covered in the labs are fair game for the lecture exams. Students need to successfully complete (obtain >50%) on all components (lab, lecture, and exam) to get a passing grade.

Each piece of work (laboratory report, exam) submitted by the student will be assigned a percentage score. The student's average percentage score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade, bearing in mind that an F grade will result if the student does not pass the Final Examination.

4. Missed Components Of Term Work:

In the event that a student misses the midterm or any course work due to illness, supporting documentation, such as a medical note or a statutory declaration will be required (see [Section N.1](#); for more information regarding the use of statutory declaration/medical notes, see [FAQ](#)). Absences must be reported within 48 hrs.

The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize themselves with these regulations. See also [Section E.3](#) of the University Calendar.

Late assignments: All assignments should be submitted when due. Only one late assignment will be permitted per term, subject to a 10% penalty per day (including weekends and holidays) and only accepted up to the time that the assignments are graded and returned. Arrangements for submitting late assignments must be made with either the TA or the instructor. Any student who fails to submit an assignment for legitimate reasons (e.g. illness) must discuss an alternative course of action with the instructor.

5. Scheduled Out-of-Class Activities:

There are no scheduled out of class activities for this course.

N/A

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY . If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

6. Course Materials:

On reserve in Gallagher Library: Appelo and Potsma (2005) Geochemistry, Groundwater and Pollution; Hiscock (2005) Hydrogeology: Principles and Practice; Zheng and Bennett (2002) Applied Contaminant Transport Modelling

Available online at library.ucalgary.ca: Hiscock (2005) Hydrogeology: Principles and Practice; Domenico and Schwartz (1998) Physical and Chemical Hydrogeology

7. Examination Policy:

Examination Policy: Non-programmable calculators will be needed for examinations. Students should also read the Calendar, Section G, on Examinations.

Students should also read the Calendar, [Section G](#), on Examinations.

8. Approved Mandatory And Optional Course Supplemental Fees:

There are no mandatory or optional course supplemental fees for this course.

9. Writing Across The Curriculum Statement:

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section [E.2](#) of the University Calendar.

GLGY 505 is a fourth year university course and as such the expectation is that assignments are presented in a professional manner. All students are expected to submit work that is well organized and coherent. Quality work is clearly written, with questions labelled and in order. All tables and diagrams are properly labelled. Assumptions are clearly stated and information sources properly referenced. Final answers are clearly indicated with appropriate units and significant figures. You are expected to show all of your work, including sample calculations when using spreadsheets or computer programs to generate results.

10. Human Studies Statement:

Students will not participate as subjects or researchers in human studies.

See also [Section E.5](#) of the University Calendar.

11. Reappraisal Of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **15 days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall immediately submit the Reappraisal of Graded Term work form to the department in which the course is offered. The department will arrange for a re-assessment of the work if, and only if, the student has sufficient academic grounds. See sections [I.1](#) and [I.2](#) of the University Calendar
- b. **Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

12. Other Important Information For Students:

- a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).
- b. **SU Wellness Center:** The Students Union Wellness Centre provides health and wellness support for students including information and counselling on physical health, mental health and nutrition. For more information, see www.ucalgary.ca/wellnesscentre or call [403-210-9355](tel:403-210-9355).
- c. **Sexual Violence:** The University of Calgary is committed to fostering a safe, productive learning environment. The Sexual Violence Policy (<https://www.ucalgary.ca/policies/files/policies/sexual-violence->

[policy.pdf](#)) is a fundamental element in creating and sustaining a safer campus environment for all community members. We understand that sexual violence can undermine students' academic success and we encourage students who have experienced some form of sexual misconduct to talk to someone about their experience, so they can get the support they need. The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (svsa@ucalgary.ca) or phone at [403-220-2208](tel:403-220-2208) .

- d. **Misconduct:** Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties. Examples of academic misconduct may include: submitting or presenting work as if it were the student's own work when it is not; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; collaborating in whole or in part without prior agreement of the instructor; borrowing experimental values from others without the instructor's approval; falsification/ fabrication of experimental values in a report. **These are only examples.**
- e. **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- f. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accommodations-for-students-with-disabilities.pdf](#).

Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Sr. Instructor of the Department of Geoscience, Dr. Rudi Meyer by email rmeyer@ucalgary.ca or phone 403-210-7848. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See [Section E.4](#) of the University Calendar.
- g. **Safewalk:** Campus Security will escort individuals day or night (See the [Campus Safewalk](#) website). Call [403-220-5333](tel:403-220-5333) for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- h. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPPA). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- i. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: sciencerep@su.ucalgary.ca. Student Ombudsman, Email: suvpaca@ucalgary.ca.
- j. **Internet and Electronic Device Information:** Unless instructed otherwise, cell phones should be turned off during class. All communication with other individuals via laptop, tablet, smart phone or other device is prohibited during class unless specifically permitted by the instructor. Students that violate this policy may be asked to leave the classroom. Repeated violations may result in a charge of misconduct.
- k. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.
- l. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be

redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

Course Outcomes:

- Identify major types and sources of groundwater contamination and relevant water quality guidelines
- Demonstrate an understanding of fundamental principles governing contaminant transport in the subsurface (i.e. dispersion (including diffusion), advection, sorption, biodegradation);
- Apply a basic quantitative skills and a combination of geological, geochemical, and hydrogeological concepts to groundwater quality problems
- Develop site conceptual models to evaluate groundwater contamination
- Describe various remediation approaches to address groundwater contamination
- Research and Present a contaminant hydrogeology case history

Department Approval:

Electronically Approved

Date: 2019-01-04 10:55