



UNIVERSITY OF CALGARY  
FACULTY OF SCIENCE  
DEPARTMENT OF GEOSCIENCE  
COURSE OUTLINE  
WINTER 2015

1. **Course:** Geology 605, Groundwater Flow & Transport Modeling

Lecture Sections:

L01: 0800 – 1100 Thursday, ES 908

Instructor, Dr. L. Bentley, Office ES 262, Tel. No. 403-220-4512, e-mail address, [lbentley@ucalgary.ca](mailto:lbentley@ucalgary.ca),

Office Hours: noon-1pm Tuesdays

Course website or Desire 2 Learn (D2L) GLGY 605 L01 Groundwater Flow and Transport Modeling

Geoscience Department ES 118, 403-220-5841, [geoscience.ucalgary.ca](http://geoscience.ucalgary.ca), [geoscience@ucalgary.ca](mailto:geoscience@ucalgary.ca)

2. **Prerequisites:** Geology 401 or 601 or consent of the Department. See section 3.5.C in the Faculty of Science section of the online Calendar ([www.ucalgary.ca/pubs/calendar/current/sc-3-5.html](http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html))

3. **Grading:** The University policy on grading and related matters is described sections F.1 and F.2 of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Assignments (2)	25%
Project	35%
Final Examination	40% (To be scheduled by the Registrar)

Percentage	Grade
95	A+
85	A
82	A-
78	B+
75	B
72	B-
68	C+
65	C
60	C-
55	D+
50	D
<50	F

4. **Missed Components of Term Work:** 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 himself/herself with these regulations. See also [Section E.6](#) of the University Calendar

5. **Scheduled out-of-class activities:** Dates and times of approved class activities held outside of class hours.  
**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:** *Applied Groundwater Modeling* by Anderson and Woessner  
RESERVE READING ROOM: *Applied Contaminant Transport Modeling* by Zheng and Bennett
7. **Examination Policy:** Exam is closed book. Non programmable calculators required. Students should also read the Calendar, [Section G](#), on Examinations.
8. **Writing across the curriculum statement:** In this course, the quality of the student's writing in all assignments will be a factor in the evaluation of those reports. See also [Section E.2](#) of the University Calendar.

**9. OTHER IMPORTANT INFORMATION FOR STUDENTS:**

- (a) **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.
- (b) **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- (c) **Academic Accommodation Policy:** Students with documentable disabilities are referred to the following links: Students with Disabilities: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html> [B.1](#) and Student Accessibility Services: <http://www.ucalgary.ca/access/>.
- (d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, 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 also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **Student Union Information:** VP Academic Phone: 220-3911 Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca).  
SU Faculty Rep. Phone: 220-3913 Email: [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca); [Student Ombudsman](#)
- (g) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.
- (h) **U.S.R.I.:** At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses ([www.ucalgary.ca/usri](http://www.ucalgary.ca/usri)). Your responses make a difference – please participate in USRI Surveys.

Department Approval: Original Signed

Date: December 19, 2014

Geology 605 Groundwater Flow and Transport Modeling  
 Winter 2015  
 Tentative Schedule

<b>Winter 2015</b>			
<b>Day</b>	<b>Date</b>		
Thursday	15-Jan	Lect.	Introduction
			<b>Assign. 1 (Modflow Mods 1-3) (Due 5 Feb)</b>
Thursday	22-Jan	Lect.	Start Governing Equations
Thursday	29-Jan	Lect.	Continue governing equations.
Thursday	05-Feb	Lect.	Continue Governing Equations
			<b>Assignment 2 (Modflow Mods 4-6) (Due 12 Feb) Ass. 1 Due</b>
Thursday	12-Feb	Lect.	Finish Governing Equations; Solvers
			<b>Project Assigned</b>
Thursday	19-Feb	Lect.	Reading Week
Thursday	26-Feb	Lect.	Start Numerical Methods
			<b>Assignment 2 Due.</b>
Thursday	05-Mar	Lect.	Numerical Methods
Thursday	12-Mar	Lect.	Transport
Thursday	19-Mar	Lect.	Konikow Papers
Thursday	26-Mar	Lect.	Recharge Paper
Thursday	02-Apr	Lect.	Calibration Paper
Thursday	09-Apr	Lect.	
Wednesday	15-Apr	Lect.	<b>Winter Session Lectures end. Projects Due</b>
Final Exams	18-29 April		