

GEOLOGY 4251 – HYDROGEOLOGY LAB (1 credit hour)
Fall 2012, TR 8:00-9:25am

Instructor: Dr. Kallina Dunkle

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Office Hours: Tuesday & Thursday 1:30-3:00pm or by appointment

COURSE OVERVIEW

The hydrogeology lab will provide students with an opportunity to perform experiments in order to better understand concepts related to the occurrence and movement of groundwater, as introduced in lecture (GEOL 4250). Additionally, students will use several widely used computer software programs in order to analyze aquifer properties, regional flow patterns, and groundwater chemistry.

PRE/COREQUISITES

Prerequisite: MATH 1720 or higher with a minimum grade of D

Corequisite: GEOL 4250, Hydrogeology

TEXTBOOK/LAB SUPPLIES

Fetter, C.W., 2001. Applied Hydrogeology, 4th edition, Prentice-Hall, Inc., New Jersey.

Note that you will need the CD, which comes with the book, for certain assignments.

Calculator

Colored Pencils

GRADING

Final grades will be based on 20 Lab Exercises, each worth 5% of your overall lab grade.

Grading scale for the course:

90-100% = A

80-89% = B

70-79% = C

60-69% = D

Less than 60% = F

COURSE POLICIES

Students are expected to attend all labs and to be on time. If you are absent you are expected to get notes from another student and catch up on your own. Certain labs require equipment that will not be available to students outside of the scheduled lab time. Students are expected to conduct themselves appropriately at all times. Academic and classroom misconduct will not be tolerated. Students should read the "Code of Student Conduct" in the new Student Handbook for an understanding of what will be expected of them within the academic setting. Cell phones must be off or on silent and put away in your pocket, backpack or purse. They should not be visible during class. Audio and/or visual recording devices including, but not limited to, computers, personal digital assistants (PDA's), ipods, tape recorders, and cameras are

not permitted to be on—they should be turned off and put away in your pocket, backpack or purse. Failure to comply with these policies will result in exclusion from the class.

When appropriate to the exercise, ALL work, including units, should be shown on lab exercises. Due dates for lab exercises will be listed at the top of the lab. Generally labs will be due either at the end of the lab or the beginning of the next lab (8am!). A penalty of 10% per day will be assigned to late labs and after one week a grade of zero will be assigned.

DISABILITY ISSUES

Any student who has a condition that may affect his/her academic performance is encouraged to make an appointment with the instructor and/or the Office of Disability Services, located in Morgan University Center, Room 114, phone 221-6230.

POLICY ON MINORS

Minors (any non-student under the age of 18) accompanying staff, faculty, students or visitors on campus are not permitted in the classroom.

TENTATIVE SCHEDULE

Week	Day	Lab
1		
	28-Aug	#1: Math Review
	30-Aug	#2: Water Budget
2		
	4-Sep	#3: Porosity & Permeability
	6-Sep	#4: Permeameters-falling head
3		
	11-Sep	#5: Permeameters-constant head
	13-Sep	#6: Storage
4		
	18-Sep	#7: Davis basin-maps
	20-Sep	#8: Davis basin-cross section
5		
	25-Sep	#9: Flow nets
	27-Sep	#10: Pumping test analysis-manual
6		
	2-Oct	#11: Pumping test analysis-computer I
	4-Oct	#12: Pumping test analysis-computer II
7		
	9-Oct	#13: Hydrographs
	11-Oct	<i>Final Project Introduction/Selection</i>
8		
	16-Oct	NO CLASS-FALL BREAK
	18-Oct	Midterm Exam (Ch1-8)
9		
	23-Oct	#14 Groundwater modeling-Excel
	25-Oct	#15 Groundwater modeling-MODFLOW I
10		
	30-Oct	#16 Groundwater modeling-MODFLOW II
	1-Nov	#17 Groundwater modeling-MODFLOW III
11		
	6-Nov	WORK DAY (GSA)-FINAL PROJECTS
	8-Nov	WORK DAY-FINAL PROJECTS
12		
	13-Nov	#18: Water chem graphing-manual
	15-Nov	#19: Water chem graphing-computer
13		
	20-Nov	#20: Geophysics
	22-Nov	NO CLASS-THANKSGIVING
14		
	27-Nov	WORK DAY-FINAL PROJECTS
	29-Nov	WORK DAY-FINAL PROJECTS
15		
	4-Dec	<i>Final Project Presentations</i>
	6-Dec	NO CLASS-STUDY DAY

CAVEAT

The above schedule and procedures are subject to change in the event of extenuating circumstances.