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GEO 420.01: Hydrogeology

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FALL 2013 Schedule
GEOSCIENCES 420- 4 CREDITS T-Th 8:10 to 10:00
HYDROGEOLOGY

Instructor: William W. Woessner (SC307)
 Text: Required - *Applied Hydrogeology fourth edition*

Course goals and objectives: Prepare students in environmental geology and related fields to successfully evaluate and quantitatively analyze hydrogeologic problems.

Professor Woessner's travel schedule in the Fall will result in some conflicts that will be resolved by cancelling class meetings and substituting class work with assignments. All attempts will be made to cover necessary course material, and if, deemed necessary, extra evening classes will be scheduled as needed.

<u>CLASS DATE</u>			<u>CHAPTER</u>
August	26	Intro-Hydrogeology	
August	28	Hydrologic Budget	1, 2,
September	3	Hydrologic Budget	2, 11.3
September	5	Properties of Porous Media	2
September	10	Properties of Earth Materials	2
September	12	Earth Material and Aquifer Properties	3
September	17	Aquifer Properties	3
September	19	Vadose Zone Properties and Flow	6
September	24	Fluid Potential	4
September	26	Governing Equations	4
October	1	Problem Set 1 Due Steady State Flow	4
		Steady State FLOW	4
October	3	No Class MT AWRA MEEETING no Class Fairmount Hot Springs October 10 and 11. Work on Term Papers	
October	8	Groundwater Flow Maps	4
October	10	Exam 1	
October	15	Regional Flow Systems	7
October	17	Regional Groundwater Flow	7

October	22	Geology of Groundwater Occurrence	8
October	24	Geology of GW Occurrence	8
October	29	No Class Annual Geological Society of America Meeting-Denver	
		Work on Term Papers	
October	31	Well Construction	5
November	5	Problem set II due Groundwater flow to wells	
November	7	Groundwater Flow to Wells	5
November	12	Aquifer tests	5
November	14	Exam II	
November	15	12 to 4:00 Field TRIP	
November	19	Aquifer Tests	
November	21	Aquifer Tests	5
November	26	Term Paper Due	
		Water Quality	10
November	28	Holiday	
December	3	Water Quality	10
December	5	Problem Set III Due (Key will be posted before final)	
		Water Law and Management	11
FINAL EXAM:		Wednesday December 11 10:10 to 12:10 Using the TR 8:10 meeting time for scheduling)	

You are being notified the first day of class taht this is the time for the exam!

COURSE ASSESSMENT: Weighting of problem sets. Exams and term paper.

GRADING:	3 Problem Sets	27%
	2 Exams	40%
	Term Paper	8%
	Final Exam	25%

Grading is 100-90 A, 89-80 B, 79-70 C, 69-60 D, 59 or less F

TERM PAPER:

The term paper will be a research report on the Hydrogeology of the city or county in which you grew up or a topic assigned by the Professor. All reports will be assigned no later than September 30. All reports will be no longer than 10 pages of text (excluding figures) and will clearly describe the location, geology, and hydrogeology of the area. It will include information on the hydrostratigraphy, occurrence, movement, quantity, and quality of groundwater as well as its uses in the area. All papers will follow a format of the USGS Water Resources Investigations and include full cited references. Sources of information include professional journal articles, State Geological Survey and Water Survey reports, USGS Water Supply Papers, Professional Papers and Water Resources Investigations, and consulting reports.

All assignments given are expected to be turned in on time for grading in neat and edited form. **Problem set assignments are due at the beginning of class on the day due with no exceptions.** If you cannot make it to class, give the work to someone who can turn it in for you.

I will post office hours for questions, and you may see me any other time I am in my office if it is convenient.

Outside reading for this class is strongly suggested. The library contains a number of general hydrogeology textbooks which I feel will give additional depth to parts of the course I can only summarize.