

Syllabus
Hydrogeology Field Camp, GEOL 475/875
Summer 2001

Schedule of Activities

	<i>Date</i>	<i>Day</i>	<i>Activity</i>	<i>travel</i>	
Hydrogeologic Field Methods					
1	May 22	T	Hydrogeologic Overview; Spatial Mapping; Campus	C	
2	23	W	Transit, depth to water, piezometric surface; Levee	C	
3	24	TH	Wells: Drilling and well completion	C	
4	25	F	Sampling ; Water quality; pH, Eh, T, TDS, DO, major ion;	C	
5	28	M	Slug test; theory, field methods, data reduction;	C	
6	29	T	Pumping test; field methods	C	
7	30	W	Pumping test methods, data reduction;	C	
8	31	TH	<i>Synthesis: Wells. Vadose zone:</i> Soil profiles at Simpson Station	C	
9	June 1	F	Soil properties: Guelph, TDR, tension, pH, lab;	C	
10	4	M	Air flow through vadose zone, Vapor extraction, hydraulic fracturing	C	
11	5	T	Geophysics, Resistivity methods	C	
12	6	W	Surface water; Surface water, Stream gauging, seepage meters	C	
13	7	Th	Synoptic stream survey, 12-mile creek	C	
14	8	F	Hydrogeologic settings ; Travel	O	
15	9	S	Tour Mammoth Cave; Overview of karst geology	O	
16	10	S	Intro to Caving, Mammoth Cave; Karst in Bowling Green, KY	O	
17	11	M	Ordovician karst	O	
18	12	T	Univ. Tennessee Knoxville Research Station	O	
19	13	W	Fractured sedimentary rock: Oak Ridge National Lab	C	
20	14	TH	GE Plant, Greenville; sampling, Mapping, Set up pumping test	C	
21	15	F	Piezometric levels at GE, Evaluation	C	
22	16	M	Tour of selected contaminated sites; RMT sponsor, Travel	O	
23	19	T	Coastal Plain Field trip	O	
24	20	W	Coastal Plain Field trip	O	
25	21	TH	Stratigraphic section	O	
26	22	F	M Area tour, Development of conceptual model	O	
27	23	S	Coastal depositional environments	O	
28	24	S	Sampling and tidal well testing	O	
29	25	M	Surveying seawater intrusion.	O	
30	26	T	Analysis of well tests, travel to Clemson	C	

Meeting: MF 0830, Room 342 Brackett Hall

Instructors: Larry Murdoch, Room 337; 656-2597; lmurdoc@clmson.edu
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Office Hours: by appt

Textbook: (recommended but not required) A Manual of Field Hydrogeology, Laura Saunders, 1998. Additional reading material will be provided.

Objectives: The objectives of this course are to give the student a working knowledge of the methods and concepts of field hydrogeology, and to use those methods to understand several hydrogeologic settings. Another objective is to introduce you to a variety of practicing hydrogeologists and scientists in related fields.

Prerequisites: GEOL 408/608 or permission of instructor.

Approach: The course will be taught by reviewing principles and methods in the classroom, and then practicing those methods in the field. The first three weeks will be spent doing field exercises locally. We will make two trips out of town, one to the Mammoth Cave area in Kentucky, and the other to eastern South Carolina. A detailed schedule is given on the following page.

Many of the projects will involve collaborating with others in a group setting. This is necessary because some of the methods, like surveying, cannot be done individually. Also, it is often helpful to work with others while learning a new technique.

Time Expectations: Field camp will represent a significant time commitment. You should be prepared to meet at 8:30 and to be in the field until dark. We will make an effort to return from the field considerably before dark on most days, particularly when we are in town. Nevertheless, circumstances will require us to be out late for some activities.

When we are out of town, we will also try to end the exercises before dark. Circumstances may require late hours particularly when we are out of town.

Food and drink: Always bring your lunch if you want to ensure that you have something to eat during day. We may have an opportunity for you to buy lunch, but you should not count on it. Always bring enough water, or other non-alcoholic beverage, for you to be comfortable during a full day in hot weather.

Equipment: You will be expected to bring the following:

- Field notebook
- Pocket transit
- See-thru ruler
- Engineer scale
- Hand lens

Grading:

Homework and quizzes	0.7
Attendance	0.2
Participation and attitude	0.1

