

**COURSE SYLLABUS**  
**GEL 112**  
**GEOLOGICAL HAZARDS**  
**AND RESOURCES (Labs)**  
**1 SEMESTER CREDIT HOUR**  
Spring 2008

**Professor: Dr. Charles Shaw**  
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Lusi mud volcano, East Java, Indonesia

Source: Wikimedia Commons

# GEL 112 GEOLOGICAL HAZARDS AND RESOURCES LABS

## 1 Semester Credit Hour

Spring 2008

**Room:** LDB 319  
**Classes meet:** Lab Section MO (01) 12-2; (02) 2-4; (03) 4-6  
TU (04) 2-4; (05) 4-6 WE (06) 12-2  
**Professor:** Charles Shaw  
**Office:** LDB 300C  
**Tel:** 41560  
**e-mail:** [ces023@shsu.edu](mailto:ces023@shsu.edu)  
**Office Hours:** any afternoon after 2pm; or by appointment

**TA: (other details will be given at first class meeting)**

**Name:** \_\_\_\_\_ **Tel:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_  
Office: LDB \_\_\_\_\_ Office Hours \_\_\_\_\_  
Tutoring times \_\_\_\_\_

## Course Description

The aim of this lab course is to have you work with a variety of real and synthetic environmental data with the intention that you will derive a greater understanding of some of the practical issues at the interface of human activities and the geological environment. The main focus is on areas in Texas with which you might already have some familiarity, and includes two local Huntsville-area field projects.

The course acts to support the lecture course GEL132 and as far as possible we will try to make these two courses mutually supportive. However, please note that it is impossible to link them with any degree of precision and some of the lab material will be essentially stand-alone.

### Objectives:

- Introduction to practical aspects of the interface of Human activities and Earth Science
- Data collection and classifications
- Field data collection and observation
- Processing raw data

**Prerequisites:** None

**Methods:** Lab & Field Instruction

**Course text:** Baldwin, Cooper, Netoff & Degenhardt, 2007 *Geological Hazard and Resources Laboratory Manual*

**Supplies:** You will be involved in laboratory and field research and you will need the following basic equipment:

**Ruler with inches and cm.**

**Colored pencils (yellow, blue, green, red, purple, etc.)**

**Calculator [TI-30 or TI-83]** *Note: cell phone calculators are not acceptable*

Rubber boots (for wading in streams)

(Items in **bold** must be brought to each lab)

**Assessment:** Grades will be based on Lab Quizzes, Lab Exercises, and a final exam. There is no make-up for the final exam.

**Grading Policies:** All lab exercises must be completed with care and precision and with the incorporation of all relevant data. **Each Lab Exercise is due at the end of the relevant lab period** and only in exceptional circumstances that have the agreement of your lab TA will exercises be accepted at a different time. It is your responsibility to make sure that your TA collects your completed exercises for grading. Most labs have exercises that **MUST** be completed prior to the lab meeting. If you do not complete these exercises you will not receive credit for them.

**You must take each lab/quiz and take the final exam.**

<b>Grading:</b>	8 quizzes x 30 points each	240 points
	9 lab exercises x 20 points each	180 points
	2 field exercises x 40 points each	80 points
	Comprehensive Final Exam	100 points
	Total	600 points

A = 600 – 540, B = 539 -480, C = 479 – 420, D = 419 – 360, F = 359 – 0

### Due Dates and Timetables

No makeup exams or quizzes.

### Attendance

All labs are compulsory and each lab involves a graded exercise. It is difficult to schedule makeups for normal labs but field labs cannot be repeated for logistical reasons. The University requires each instructor to keep a record of student attendance. Attendance based on a seating chart will be recorded at the beginning of the class period. **Tardies count as an absence.** Please do not be late – it disturbs other members of the class.

An absence from a lab or field project (including for religious reasons) may be approved, dependent upon the merits of the case, and will only be approved in cases of the utmost emergency such as the death or injury of an *immediate* family member or illness with a medical certificate that specifically notes that you could not attend school on the relevant day(s). In such cases the onus is upon the student seeking the absence to show supporting evidence as to the nature of the emergency. Unless another solution is agreed to with the class TA a class average grade for the particular quiz or exam will be awarded.

### Academic Conduct

University statement: *All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of academic dishonesty including, but not limited to, cheating on examinations or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.*

A basic honor system applies to this course and you must take care to respect your fellow students. Part of our coursework will take place out in the field and you will be representing Sam Houston State University in a public setting so that special care will be necessary. Also, whether in the lab or in the field, take care to safeguard your own safety and the safety of all the other members of this class.

A number of tasks that you will be completing and which will be part of your course assessment will be best worked in groups. This is strongly encouraged because this is the way that most of science is actually done – in strong interactive groups. However, I will not accept group submissions of work.

You need to keep your own unique set of notes and you need to clearly document your individual role and contribution to any task.

## **Classroom Rules and Conduct**

University statement: *Students are expected assist in maintaining a classroom environment that is conducive to learning. Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular telephones and pagers must be turned off before class begins. Students are prohibited from eating or drinking in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.*

- Come to class on time—there is no reason to be late to class on a frequent basis. Habitual tardiness **is unacceptable.**
- Remain in class until it is finished. **Leaving early will count as an absence unless you have cleared it with your TA or unless it is an emergency.**
- **You cannot leave the lab during an exam** unless there is a medical emergency.
- **If you arrive after the first person has left an exam you will not be permitted to take the exam.** (Note: makeup exams are not given).
- **No cell phones in labs or exams**

### **VISITORS IN THE CLASSROOM:**

University statement: *Unannounced visitors to the classroom must present a current, official SHSU identification card to be permitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor's discretion whether or not the visitor will be allowed to remain in the classroom. This policy is not intended to discourage occasional visiting of classes by responsible persons.*

### **Americans with Disabilities Act:**

University statement: *It is the policy of Sam Houston State University that no otherwise qualified disabled individual shall, solely by reason of his/her handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any academic or Student Life program or activity. Disabled students may request assistance with academically related problems stemming from individual disabilities by contacting the Director of the Counseling Center in the Lee Drain Annex or by calling (936) 294-1720. Any student seeking accommodations should go to the Counseling Center and Services for Students with Disabilities in a timely manner and complete a form that will grant permission to receive special accommodations.*

### **Religious Holidays:**

*Students who are absent from class for the observance of a religious holy day are allowed to take an examination or complete an assignment scheduled for that day within reasonable time after the absence. The period of time during which assignments and exams will be excused includes travel time associated with the observance of the religious holy day. A student who wishes to be excused for a religious holy day must present the instructor of each scheduled class that he/she will be absent from class for religious reasons with a written statement concerning the holy day(s) and the travel involved. The instructor should provide the student with a written description of the deadline for the completion of missed exams or assignments. In such cases, the student will be required to take the test or submit the assignment early—unless there are good reasons for not being able to do so and the instructor has agreed to those reasons.*

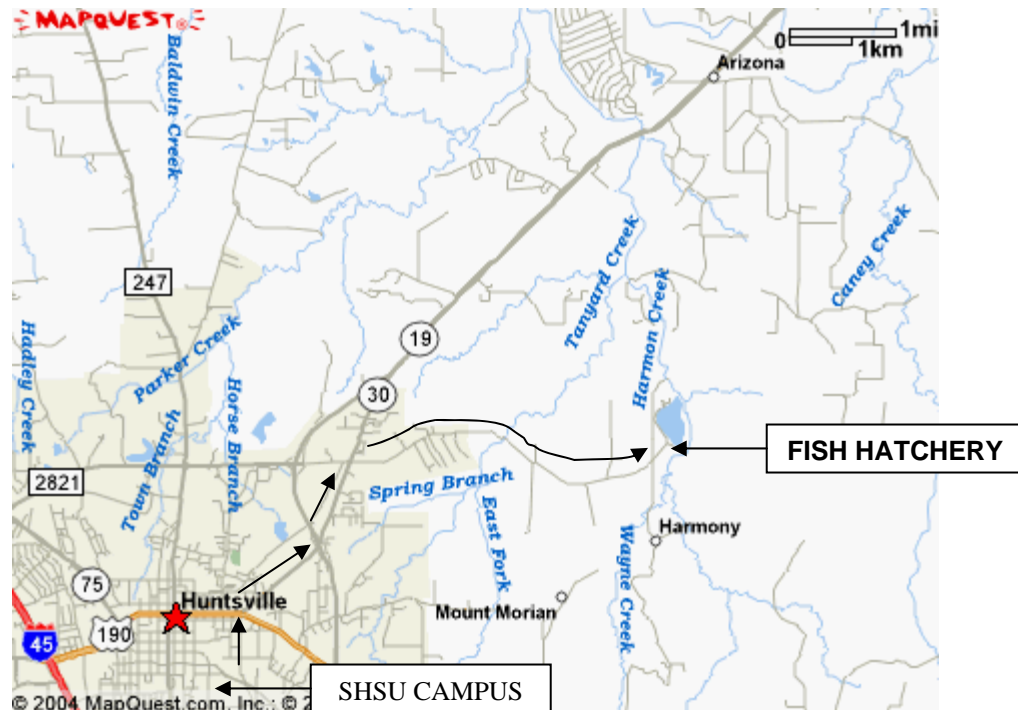
### **Lab and Field Safety**

Labs and field sites are inherently dangerous places – and places in which you are encouraged to be active and inquisitive. Consequently you need to take particular care of your self and others around you. In lab you will very infrequently handle drops of dilute acid. Do so with special care and avoid splashes on your skin. At the Fish Hatchery you will climb around in the shallow creek. Wear appropriate footwear – sneakers and boots are appropriate; flip-flops are not (unless you want to wear them for wading in the stream). Insect repellent may be very useful.

If you need special accommodations of any sort let your TA know in plenty of time.

## Field Lab Locations

### Fish Hatchery



### Driving Directions

Exit SHSU campus by driving up the hill, passing Bowers Stadium on your left.  
Turn left on to Sycamore  
Continue on Sycamore, cross straight over Rt.19 where Sycamore becomes Rt. 30 and continue to 4 way stop with flashing light.  
Turn Right on to Fish Hatchery Road, continue to the end (approximately 3 miles).  
Park off the road on the right

### Arriving Late

***Do not climb over the gate: a small button on the black box of the gate opener system will open the gate***

## Spring Lake

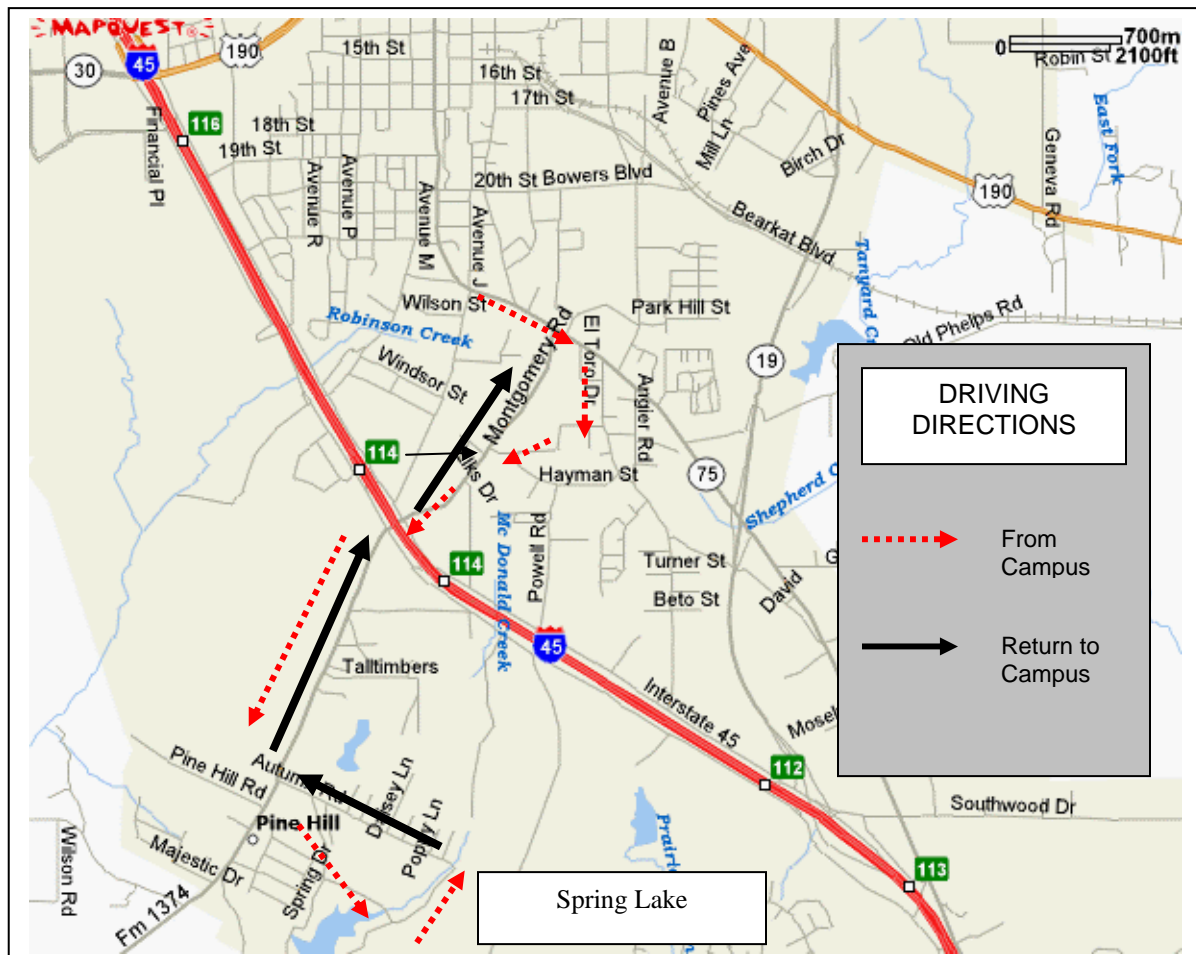
Maps and other relevant information is included in the Lab. Manual under Lab # 6B.1

The drive to Spring Lake is designed to take you through the area of the headwaters of MacDonald Creek. (Fig. 2) If you have the time you are encouraged to cover as many of the roads that are accessible in the headwaters area. The purpose of your drive through this area is to characterize the various types of land uses that are in the drainage basin which might influence the behavior of the Creek.

Drive south on Sam Houston Avenue and turn off to the right onto Old Houston Road (just before “Jays Gro” convenience store. Drive 200 yards and turn right onto Cline Street. Follow Cline Street as it twists and turns and eventually brings you out on Montgomery Road. The headwaters of MacDonald Creek are on your right hand side, hidden amongst trees and houses as you drive along Cline Street.

Once you get to Montgomery Road drive directly to Spring Lake.

Figure 2.



# GEL 112 Geological Hazards and Resources

## Lab Assignments

(Check on Geology Notice Boards for the start date of Labs – they vary by semester)

Week #	Lab Manual Chapter #	Topic	Points
1	1	Tools of the Trade: maps and remote sensing	20
2	3	Volcanic Hazards Quiz	20 30
3	4	Landslide Hazards Quiz	20 30
4	2	Ground Truth: SHSU Fish Hatchery <b>Field Lab</b>	<b>40</b>
5	5	Subsidence Hazards Quiz	20 30
6	6A	Flash Flood Hazards in Texas Quiz	20 30
7	6B	Flash Flood and Urban Sedimentation in Huntsville MacDonald Creek and Spring Lake <b>Field Lab</b>	<b>40</b>
8	7	Earthquake Hazards Quiz	20 30
9	SPRING BREAK		
10	8	Coastal Hazards Quiz	20 30
11	9	Water Resources Quiz	20 30
12	10/11	Mineral Resources & Coal Resources Quiz	20 30
<b>13</b>	<b>FINAL (Comprehensive – must be taken no matter grade)</b>		<b>100</b>

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