# Syllabus for Introduction to Physical and Chemical Hydrogeology (GEOL 346C) Spring 2010

**http://www.geo.utexas.edu/courses/346C/**

**Instructor:** Dr. Bayani Cardenas, cardenas@jsg.utexas.edu, 471-6897, EPS 3.160
**Teaching Assistants:** Travis Swanson, tswanson@mail.utexas.edu, and John Nowinski, jnowinski@mail.utexas.edu, both at EPS 3.102D

The **goals** of this course are:
-to provide basic understanding of the water cycle, emphasizing concepts relating to groundwater
-to provide experience with different methods in hydrogeology
-to develop learning and problem-solving skills

**Course Philosophy:** *Learning by doing!*

**Course expectation:** Everyone is to have a positive, fun and mature attitude towards learning and applying hydrogeologic concepts. Students should demand a lot from us (instructors and teaching assistants) and we will strive to meet these expectations. But in return, we expect the same from the students.

**Lecture hours:** T-Th, 11 AM-12:30 PM, JGB 3.116

**Office hours:** Cardenas: T & Th, 9-10 AM and by appointment
Swanson: M & W 1-2 PM
Nowinski: T & Th 10-11 AM

**Required Reading:**
The primary textbook is by Fetter, C.W., *Applied Hydrogeology* 4rd ed. (2001). This text will be supplemented by material from Freeze, A. and Cherry, J., *Groundwater* (1979), Chow, V.T., Maidment, D.R. and Mays, L.W., *Applied Hydrology* (1988), Dingman, S.L., *Physical Hydrology* (1998). These additional texts will be on reserve in the Geology library.

**Grading:**

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| Three in-class exams | = 30% |
| Weekly (or bi-weekly) homework | = 50% |
| In-class quizzes and mini-projects | = 10% |
| Participation and attitude | = 10% |
| **Total** | **= 100%** |

This is a lecture-style course, and attendance is important. Interaction during the lecture meetings is encouraged and expected, and a percentage of your grade is based on your level of preparation and participation at each class meeting.

There will be no final exam. The philosophy behind this is that if you did most of the quizzes, homework, mini-projects, and studied hard for the in-class exams, you have learned the material and there is no need for an additional exam.

## Homework and Exams:

Homework problems are assigned on the Thursday of each week and are due on the following Thursday by the start of class. Late homework loses 50% after the first day, but will still be worth 50% up until the due date for that section. You can hand late homework in to the TA any time up until that date. The late homework due dates for each section are: Feb 20 (surface water), Apr 3 (ground water), and Apr 24 (aqueous geochemistry). **All work (i.e. calculations and sketches) should be submitted to get full credit.** This will also allow us to give you appropriate credit even if you messed up some calculations.

There are three exams during the regular semester, each focused on one of the three sections of the course. Each of the midterm exams is worth 10%. Each of the exams is 75 minutes long, and is scheduled on a Thursday during the regular class period.

## Extra Credit:

Extra credit homework problems will be offered on a regular basis. This is an excellent opportunity to improve your homework grade and to explore some of the more advanced concepts of the subject.