SYLLABUS GEOGRAPHY/ENV. STUDIES 162: WATER QUALITY

University of California at Santa Barbara Spring Quarter 2018

Instructor: Hugo A. Loáiciga; **email** = hloaiciga@ucsb.edu

Office: 3626A Ellison Hall

Office hours: Tuesday, 1100 -1200; Thursday: 1100 – 1200, or by appointment.

Teaching Assistants: Dami Eyelade (oeyelade@umail.ucsb.edu); Javier Rubio (javier02@umail.ucsb.edu)

Office: Dami: 3626B Ellison Hall; Javier: 3610 Ellison Hall. **Office hours:** Dami: TBD; Javier: TBD.

Lecture: Tuesday, Thursday 9:30-10:45 am Girvetz 1115.

Laboratory: Tuesday 3:00-4:50 pm Ellison 2610 or Thursday 5:00-6:50 pm Ellison 2610; see Rules and Regulations 5 and 6

Textbook: N.A.; 162 Reader SBprinter.com, University Center UCSB

One copy of the Reader in the Reserve Book Room (RBR, Davidson Library)

Prerequisites: a foundation in chemistry, biology, and hydrology is desirable.

Course objectives: to conduct a comprehensive review of the physical, chemical, and biological characteristics of surface waters and groundwaters; learn ways to improve drinking-water quality; study the treatment and management of chemically and biologically polluted waters; conduct risk assessments for water toxics.

GRADING

Item	Date or date due	Weight
Midterm Exam 1 (open book)	Thursday April 26	14 %
Midterm Exam 2 (open book)	Thursday May 24	18%
Homework	about 7 or 8 total	16 %
Laboratory	See Rules and Regulations	20 %
Final Examination (open book)	Tuesday June 12 8-11 am regular lecture room	32 %
Total		100%

First day of classes: Tuesday April 3, 2018; Last day of classes: Thursday June 7, 2018.
Official holidays: Not applicable.

RULES AND REGULATIONS:

1. NO FOOD OR DRINK IN THE LABORATORY OR CLASSROOM. TURN OFF ELECTRONIC COMUNICATION DEVICES DURING LECTURE AND LABORATORY TO AVOID DISRUPTIONS.
2. There will be 7 or 8 homework assignments altogether, assigned weekly. Homework is due on Thursdays at the beginning of lecture, **unless** specified otherwise by the Instructor. Turn them in to the T.A. **Late homework or lab reports will receive a grade of zero**. Emailed homework or lab reports are NOT acceptable.
3. **No late or early homework, or laboratory reports, or make-up examinations will be accepted or administered,** unless a validated medical excuse is presented certifying physical or mental incapacitation precluding the student from completing and/or turning in the assignment, or taking an examination. A validated medical excuse is one issued by a **licensed physician** in the **State of California**. The student must provide credible **evidence that the medical conditions prevented submittal of course work or presence in the classroom** or **laboratory**. Please notify the instructor immediately e-mail if you cannot attend an exam, laboratory, or submit due work **prior to the due date**.
4. The dates of tests and assignments are definitive. If scheduling conflicts arise with other courses, please make early arrangements with the instructors of those courses. The laboratory assignments or field excursion may NOT be substituted with any other type of course work.

5. Attendance to lecture is not required. Past experience shows, however, **a strong correlation between failing grades and absence during lectures**. There is no electronic posting of lecture notes.
6. The laboratory is taken concurrently with the lecture course 162. The laboratory is an integral part of the course as indicated in the Table of page 1.
7. The Laboratory consists of the following projects, see the Table:

Lab/project	**Topic**	**Meeting: date/time**	**Date due[A]**
Lab 1 : Excel (2%)	Introduction to spreadsheet calculations and graphics[B]	Room 2610 Ellison Hall Tue. April 3, 3 pm or Thurs. April 5, 5 pm	Thurs. April **12 @** 9:30 am
Lab 2 (4%)	USEPA water quality[B] criteria and standards + presentation of water chemistry analyses	Room 2610 Ellison Tues. April 10, 3 pm or Thurs. April 12, 5 pm	Thurs. April **19 @** 9:30 am
Lab 3 (5%)	Water chemistry and quality analysis[B]	Room 2610 Ellison Hall Tues. April 17, 3 pm or Thursday April 19, 5 pm,	Thurs. April **26** @ 9:30 am
Lab 4 (5%)	Coastal pollution data analysis[B]	Room Ellison Hall 2610 Tues. May 1, 3 pm or Thursday May 3, 5:00 pm	Thurs. May **10** @ 9:30 am
Lab 5 (4%)	Analysis of groundwater contamination	Room Ellison Hall 2610 Tuesday May 8, 3 pm or Thursday May 10, 5 pm	Thurs. May **17** @ 9:30 am
Total = 20 %			

[A] Instructions on methodology and presentation of laboratory assignments and reports will be given during the meeting times; **[B] Presence during laboratory is required to receive credit**.

COURSE CONTENTS

WEEK	**Reading assignment**	**SUBJECT**
1,2	Lecture notes; Reader: TBD	Water use; rivers and ground waters: chemical origin Tentative problems: TBD
3	Lecture notes; Reader: TBD	Characteristics of water Tentative problems: TBD
4	Lecture notes; Reader: TBD	Characteristics of water Tentative problems: TBD
5	Lecture notes; Reader: TBD	Characteristics of water Tentative problems: TBD
6	Lecture notes; Reader: TBD	Characteristics of water Tentative problems: TBD
7,8	Lecture notes; Reader: TBD	Significance of the characteristics of water Tentative problems: TBD
8,9	Lecture notes; Reader: TBD	Water and Sewage Treatment; environmental toxicology; elements of stream ecology Tentative problems: TBD
10	Notes	Risk Assessment and Water Quality Laws