

Environmental Science 22: The Human Environment: Physical Processes Lab
Section Number: 1313 (Thurs 11:20a – 2:25p) AHS / 152

Course Description: An introduction to processes in the physical environment through laboratory exercises and field observation using the scientific method. Topics include resources, energy, pollution, waste treatment and remediation, field and lab techniques, and environmental change. The use of monitoring equipment and computer data analysis is emphasized. **(2 Units)**

Corequisite: Environmental Science 1 **Transfer credit:** UC:CSU

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Office: AHS / 304
Office Hours: Wed. 8:20-9:20a
 (or by appointment)

Tentative Schedule (*subject to change—it is your responsibility to keep current*)

| Week: | Dates: | Topic / Assignment / Readings: |
|--------------|---------------|---|
| 01 | Sep 01 | Introduction – Water Audit*; The Scientific Method |
| 02 | Sep 08 | Water Audit; Tujunga Wash; “Cadillac Desert” |
| 03 | Sep 15 | Water Quality Parameters/Topics (group project) |
| 04 | Sep 22 | Living Machine; Rivers & Streams (Intro) |
| 05 | Sep 29 | Rivers & Streams Lab |
| 06 | Oct 06 | Groundwater (Intro & Lab) |
| 07 | Oct 13 | Field Mapping (GPS & Compass); Chaparral (Santa Monica Mtns.) |
| 08 | Oct 20 | Water Presentations; Research/Questions for Field Trips |
| 09 | Oct 27 | Field Trip: Tillman Water Reclamation Plant |
| 10 | Nov 03 | Field Trip: Burbank Recycling Facility |
| 11 | Nov 10 | Grocery & Clothing “Audit” presentations |
| 12 | Nov 17 | Life Cycle Assessment / Mining & Waste Management |
| 13 | Nov 24 | “How green is our campus?” campus tour (group project) |
| 14 | Dec 01 | Green Building / LEED |
| 15 | Dec 08 | Green campus presentations / Final Exam |

* “LabWrite”: <http://www.ncsu.edu/labwrite/>

Required Materials (to be brought to every class): All students are required to bring a **basic scientific calculator** to class. The calculator should perform basic data manipulation functions--such as adding, subtracting, multiplying, dividing, determining squares and square roots--and have a single, rather than multiple, memory that is easy to use. Some additional features you should look for include:

- Parentheses () keys
- A y^x key
- A reciprocal ($1/x$) key
- Ability to do simple statistics, including means (\bar{x}) and standard deviations (σ)
- An e^x key
- A **LN** (natural log) key
- An exp or **EE** key

You should expect to spend around \$20.00 or less.

Also, purchase a protractor, colored pencils, & flash drive. Along with your calculator, bring these items to lab every time we meet. Dress comfortably; bring sunscreen, hat, walking shoes (be prepared to be outdoors).

Also, all students must have **Internet** access. There are computer labs on campus, if you don't have access at home. Also, all registered students have Internet privileges on campus (through the LAVC

Universal Internet Access System - UIA System). Several of the assignments will require web-browsing and email capability.

Grading: There will be only one exam for this class. The exam (approximately 150 points) will consist of multiple choice, true-false, short answer, and fill-in. You will be required to bring a Scantron form (882 or 882-ES). Each of your labs (conducted both in- and outside of class) will be worth 40 points. You will have the option to drop your lowest individual lab score. Therefore, the majority of your course grade will be based on your participation in and completion of laboratory exercises and one individual and one group project (paper, Power Point, or poster presentation of an environmental topic not covered in class -- further explanation will be provided). We will have two off-campus field trips this term.

Grading will be as follows:

A 90 - 100

B 80 - 89

C 70 - 79

D 60 - 69

F < 60

Extra Credit/ "Enrichment Activities": max 35 points

Ask me about the "Service Learning" and "Sustainable Works" Programs at LAVC or the "research option" (with a limit of **five** per student; one per month). Details will be discussed in class.

Class Policies: I expect students to come to class prepared, and to treat me and fellow students with courtesy and respect. **Academic dishonesty (including, but not limited to, cheating / plagiarism) will not be tolerated!** Anyone found to be plagiarizing or cheating on an assignment will receive a zero (fail) on that assignment or exam, and be referred to the Vice President of Student Services for further disciplinary action (per "Standards of Student Conduct", schedule of classes).

Regular **attendance** is encouraged. If you stop attending class (or wish to drop) on or before **November 21**, 2010 for Fall Semester 2010, you must drop the class yourself – officially – by telephone, internet or Office of Admissions and Records. Failure to do so may result in a grade of 'F' in this class.

Make sure to exchange **contact information** (phone & email) with *several* of your classmates. Just in case circumstances force you to miss a class, you will need to contact one of your classmates to find out what you missed. *Without prior approval / a doctor's note*, **NO MAKE-UP EXAMS** will be given; **NO LATE ASSIGNMENTS** will be accepted. Communication is key!

If you are a student with a disability and require classroom accommodations, please let me know and be sure to contact **DSPS** (Room CC100, 818-947-2681 or TTD 818-947-2680).

Do you qualify for **Financial Aid**? Call 818-947-2412 or consult their website: www.lavc.edu/studentwebsite/financial/index.html

What you should expect to get out of this course:

Course Objectives: Demonstrate ability to identify, gather and evaluate internet-, field-, and lab-based scientific data. Demonstrate ability to use basic computer programs to store data, perform simple analysis and produce graphs, maps and images. Operate basic field equipment and perform basic monitoring, data collection, and mapping tasks. Conduct an analysis of human impacts on the environment (small-scale). Discuss appropriate non-polluting and low emission alternatives to conventional energy. Evaluate campus programs and buildings for environmental "friendliness" and prepare a report detailing problems and suggested improvements.

Student Learning Outcome: Students will use the scientific process to analyze human impact on the environment.

Please, REMEMBER TO **TURN OFF PHONES** DURING CLASS!