

# **ENVIRONMENTAL SCIENCE 022 - THE HUMAN ENVIRONMENT: PHYSICAL PROCESSES LAB**

**(UC:CSU) - 2.00 UNITS George Leddy, PhD, Instructor**

*Prerequisite: See Below. Co-requisite: Environment Science 1.*

**13872/13873- Tuesdays LEC/LAB 6:50- 10:00 remote  
live**

**Meets IGETC 5C CSU B3**

(PDF of this file here.)

Prerequisite: Environmental Science 1 with a grade of C or better or concurrent enrollment. Lecture, 1 hour, laboratory 2 hours. This is an introductory lab course in which students will work individually and in teams to investigate the causes and consequences of key environmental issues. ~~Field sampling, laboratory procedures and data analysis skills are emphasized as we explore our natural world. Particular attention is paid to water, energy, consumption, food, sustainability, waste and recycling.~~ Given the constraints imposed by the remote modality, we will approach this class as a method for reading scientific papers and the ability to present on a science paper to a lay audience.

## **Learning Outcomes**

Students will read on the various ways scientists publish their findings in journals. They will learn to understand what is meant by lab activities and the use of scientific instruments to assess environmental impact and/or quality. After reading about science papers, students will adopt one and analyze it for a class presentation online. These will use PowerPoint or Google slides. In addition, students will complete reviews of their chosen paper with links to sources online that can be used as footnotes.

Students can be added as slots are available. Adding students must come to the first class meeting. Absent pre-enrolled students will forfeit their slots. Current veterans have priority on the wait list. Students can add the class if there is room for additional students during the first two weeks of classes. Students pre-enrolled who fail to attend the first two meetings and students waiting to add will be given their places.

Last date to enroll with a permission number:	02/19/2024
Last date to drop this class without a "W":	02/19/2024
Drop classes without incurring fees	
Drop classes with refund of enrollment fees	
Last date to drop with a "W":	05/05/2024

The Waiting List will give precedence to those who attend first class meeting to replace no-shows. Current veterans registered through the LAVC Veteran's program have priority in adding the class.

Students are expected to attend all class sessions. Short quizzes follow some lectures/labs. Grades are calculated from all work turned in. Attendance is required up to Census week. Four absences during the semester result in Exclusion. See also: Administrative Board Rules 9803.28 on academic dishonesty.

Arrangements for Extra Credit can be made for a total of 30 points. These involve editing a Google Slide show on water and energy conservation already underway.

## Required Text:

There is no required textbook for this class. Materials will be posted online. Three articles we will need throughout are:

[How to Read a Scientific Paper](#), ScienceBuddies

[How to \(Seriously\) Read a Scientific Paper](#), Pain

[How to Read and Understand a Scientific Paper](#), Raff,

[How to Read Scientific Papers](#), Schmidt, (This one is key)

["The Structure, Format, Content, and Style of a Journal-Style Scientific Paper"](#) Bates College

["Thomas Kuhn" Stanford Philosophy](#)

["Thomas Kuhn"](#) Pajares, UKY

An **optional** E-text can be rented for 170 days from VitalSource (Bookshelf)..

[Hoffman, A., 2020, \*Scientific Writing and Communication, PAPERS, PROPOSALS, AND PRESENTATIONS\*](#), Oxford Univ Press, New York, Fourth Edition

Students with a verified disability who may need authorized accommodation(s) for this class are encouraged to notify the instructor and the Office of Special Services or Disabled Students

Contact the office at (818) 947-2681 or (818) 947-2680 (TDD for the deaf only).

All information will remain confidential.

Assignments: Students will be asked to complete **several written assignments** based on materials provided as well as their own research. These are primarily designed to expose students to research publications, tabulation, and presentation. They are

evaluated on the basis of their fidelity to the assignment, quality of the analysis, and clarity of presentation. Assignments are due within a one-week period following the date they are assigned. Presentations have to be scheduled for every member of the class, so we will need to set that up early in the semester. The final grade is drawn from these in the following proportions:

Quizzes and Exams on reading scientific papers      40%  
Slide show presentation and write-up:                      60%  
Office hours: Tu 5:30pm – 6:45 pm, via Zoom in Canvas      e-mail: [leddygs@lavc.edu](mailto:leddygs@lavc.edu)

## Financial Aid

Financial Aid is available! Call (818) 947-2412. Go to the Financial Aid Office in the Student Services Center, first floor. For more info:  
<http://www.lavc.edu/financialaid/index.html>.

## Academic Dishonesty / Plagiarism and Student Conduct

Plagiarism is the use of others' words and/or ideas without clearly acknowledging their source. When you incorporate those words and ideas into your own work, you must give credit where credit is due. Plagiarism, intentional or unintentional, is considered academic dishonesty and is not tolerated. Anyone found to be plagiarizing or cheating on assignments (e.g., copying or giving answers, using 'crib' sheets, etc.) will (1) receive a zero (fail) on the assignment, and (2) be referred to the Vice President of Student Services for further disciplinary action, following due process. For further information on plagiarism, go to the Writing Center website

(<http://www.lavc.edu/writingcenter/handouts/plagiarism.html>) and refer to the STANDARDS OF STUDENT CONDUCT AND DISCIPLINARY ACTION in the current Schedule of Classes and Catalog.

Hard copy of materials will be avoided. Students should get access to the course website as soon as possible. All my courses are hosted there. See: <http://www.agricanto.org> and go to Environmental Science 22.

Last year students in ES22 participated in the making of teaching modules for energy conservation and water conservation that are online (Google Slides). Continued work here can be done for extra credit (as above) as well as class assignments. This year we will learn to read scientific papers and use PowerPoint to present a review of the paper. Students will select their paper early in the semester even while reading on how to evaluate it. In addition, students will write an annotated review of the same paper for full credit.

Dates	Readings and Topics:	Assignments quizzes Field Trips and Labs
	Introduction to the course	
<b>Lecture/Lab 1:</b> <u>Feb 6</u>	Science methods and some hoaxes	The Scientific Method
	Observation and Hypothesis	Assignment 1
<b>Lecture/Lab 2:</b> <u>Feb 13</u>	Scientific Hypothesis Reading a Science paper	Basics of articles and questions
	Using Excel to make tables and graphs	Select a paper from the library of papers of Google Scholar.
<b>Lecture/Lab 3:</b> <u>Feb 20</u>	Quantification in papers	Excel exercise
	Making sense of Instrumentation	graphs and charts
<b>Lecture/Lab 4:</b> <u>Feb 27</u>	How to Read a Science paper and markup on PDF	
	Thomas Kuhn, <i>the Structure of Scientific Revolutions</i>	Assignment 2
<b>Lecture/Lab 5:</b> <u>March 5</u>	Final paper assignments	<b>Preliminary read on the chosen paper</b>
	How to prepare a one-page review	
<b>Lecture/Lab 6:</b> <u>March 12</u>	Working with .ppt and Google Slides	Online data graphics and Google images
	Accessing public domain graphics and videos, YouTube, Google images	
<b>Lecture/Lab 7:</b> <u>March 19</u>	Outline selected paper Model paper	Assignment 2 is due
<b>Lecture/Lab 8:</b> <u>March 26</u>	Discussion of Assignment 3 Midterm published	The third pass
<b>Spring Break:</b>	<b>Spring Break</b>	<b>No class</b>

April 2

**Lecture/Lab 8:** How to assemble your .ppt  
April 9

**Lecture/Lab 9:** Rubric for assessing  
April 16 presentation.

**Lecture/Lab 10:** Presentations  
April 23

**Lecture/Lab 11:** Presentations  
April 30

**Lecture/Lab 12:** Presentations  
May 7

**Lecture/Lab 13:** Presentations  
May 14

**Lecture/Lab 14:** Presentations  
May 21

**Lecture/Lab 15:** Presentations  
May 28

**Midterm due April 11**

Assignment 3 due  
Submit the marked-up copy.

Presentation schedule TBA