

ENSC 1101.06 – LAB FOR ENVIRONMENTAL SCIENCE I (CRN 30166)
UNIVERSITY OF HOUSTON – CLEAR LAKE
FALL 2016

Instructor: Dr. Gerald D. Pollack pollack@uhcl.edu
Instructor's Office Suite: Bayou 3321-8 281-283-3742
Physical and Applied Sciences Department Office: Bayou 3321-8 281-283-3738

Office Hours*

Mondays	9:30 – 10:30am and 1:00 – 3:30pm	Thursdays:	None
Tuesdays:	9:30am – 12:00pm	Fridays:	9:30 – 10:30am
Wednesdays:	9:30 – 10:30am		

Teaching Assistant: Mr. Korry Huddleston **TA email:** HuddlestonK7025@uhcl.edu
Open Lab Hours*: Tuesdays 8:30 to 10:30am **Open Lab Location:** Bayou 3215

Class Meeting: Fridays 1:00pm to 3:50pm in Bayou 3215.

Course Textbook – REQUIRED:

Shanholtzer and Hall. 2014. Exploring the Environment. ISBN 978-073806988-3. This lab manual is to be brought to every class meeting.

Additional Required Materials:

- Safety glasses (available in the university bookstore)
- Lab coat (available in the university bookstore)

Co-requisites: ENSC 1301

Catalog Description: An introduction to chemical and biological principles relating to ecology, natural resources including animals, plants, water, soil and air.

Learning Outcomes:

Upon successful completion of this course, students will:

- Recognize, describe, and quantitatively evaluate earth systems, including the land, water, sea, and atmosphere, and how these function as interconnected ecological systems.
- Assess environmental challenges facing humans caused by their interaction with the physical and biological environment (e.g., population growth, energy resources, food production, pollution, water and resource use).
- Acquire a scientific vocabulary and critical thinking skills related to environmental science.
- Assess the effectiveness and feasibility of environmental policy and its impact.

Course Format and Requirements:

This course will consist of face-to-face laboratory activities. Review questions and module assignments will summarize laboratory exercises and be submitted either in hard copy (paper) or electronic format, as designated by the instructor.

*All Office Hours will be held in your instructor's office. Open Lab will be held in Bayou 3215.

Attendance: Students who miss lab exercises perform very poorly in this course. The primary objective of any lab course is to provide the student with a “hands-on” experience that will support and illustrate the concepts covered in the lecture portion of the course. Lab is about seeing and doing. Therefore, consistent and timely attendance to lab is a must for success in this course! Lab will start promptly at the scheduled time. Important introductory and safety information will be given at the beginning of each lab. Late arrival to lab will affect your understanding of the entire lab exercise and may pose a safety hazard to you and other students.

Due to logistical and safety concerns, there will be no make-up labs. Any graded materials collected during the missed class, such as assignments and/or review questions, cannot be made up and will be graded as a zero. Students are responsible for understanding all laboratory procedures and any course content covered during their absence. Open lab is provided to students for additional practice using laboratory equipment, acquiring data from missed laboratory experiments (when applicable), and assistance with course content.

Assessment: Assessment will consist of four in-class tests (non-cumulative), four module assignments, and twelve sets of review questions. Test questions will be mostly short answer, with some calculations and graphing exercises as well.

Communication:

Class communication will be through Blackboard or your UHCL student email account (@uhcl.edu). The class schedule including a list of topics are located on the class calendar in Blackboard (<http://blackboard.uhcl.edu>).

Grade Determination:

Grading Criteria	Percentage
Tests (4)	60%
Module Assignments (4)	28%
Review Questions (12)	12%
TOTAL	100%

Grading Scale:

Final Grades will be given on the university scale:

Letter Grade	Percent Range						
A	100-93%	B	87-83%	C	77-73%	D	67-63%
A-	93-90%	B-	83-80%	C-	73-70%	D-	63-60%
B+	90-87%	C+	80-77%	D+	70-67%	F	60-0%

Graded Materials: Review questions are to be submitted within the first 10 minutes of lab and will not be accepted late. Review questions that are not submitted will be assigned a grade of zero. Questions left blank will be graded as completely incorrect unless otherwise instructed. No make up review questions will be allowed. Only the top 10 grades on review questions will be used to calculate student grades.

Module Assignments will consist of exercises, lab reports, or other activities as the instructor feels fits the needs of the class. The course instructor will notify students of the details concerning each

assignment at least two weeks prior to the assignment's due date. All assignments will be used to calculate student grades.

The only tests that may be made up are Tests 1, 2, or 3. One of these may be made up during the last laboratory meeting following completion of Test 4. If you miss more than one test, a grade of zero (0) will be recorded for the missed test(s) beyond the one allowed for make up. Test 4 can only be made up if there is a successful petition for an incomplete grade. Students must be on time for their scheduled exams. Students entering after the exam has begun may not have adequate time required to finish. Students entering after the first student has completed their exam, will not be permitted to start the exam. All test grades will be used to calculate student grades.

Laboratory safety policies and procedures

General Lab Safety

1. Only students enrolled in the laboratory course are allowed in the laboratory.
2. No one is allowed to eat, drink, smoke, or apply cosmetics while in the lab.
3. Shoes that completely cover the feet are required for lab. Bare feet, sandals, and open-toed shoes are not allowed.
4. Long hair, dangling jewelry, or loose clothing should be tied back or otherwise confined during lab.
5. Desk areas should be kept uncluttered. The tabletop area is not to be used for materials that are not essential to the experiment (e.g., pocketbooks, lecture text books, etc.).
6. Desktops must be cleaned after each laboratory meeting.
7. Lab coats, gloves, and goggles must be worn while working with preserved specimens, hazardous chemicals, or as indicated by your instructor. Students must bring lab coats and goggles to all lab meetings.
8. In the event of any accident, notify the instructor immediately. Do not attempt to clean up broken glass or spilled chemicals yourself.
9. Bandage all cuts on hands before dissecting or using chemical reagents.
10. Small sharp objects such as used slides or small pieces of broken glass should be placed in a Sharps container or other container as indicated by your instructor.
11. No lab material of any kind may leave the laboratory.
12. No students are allowed in the laboratory outside regular laboratory class time or open lab unless a faculty member is present.
13. Know the location of emergency equipment, emergency exit locations, and telephone. Report any condition that appears unsafe or hazardous to your instructor.
14. Wash hands before leaving the laboratory.

15. Microscopes are to be put away properly with scanning objective in place, cord wrapped with Velcro, and mechanical stage is centered so that extended arms DO NOT hit into other scopes or walls of the cabinet.

Chemical safety

1. Some chemicals used in this laboratory may be absorbed by contact lenses. It is advisable to remove contacts before lab or wear tight fitting goggles during lab exercises that will involve these chemicals.
2. Dispose of all chemical waste in the proper waste container as indicated by your instructor. NEVER pour any chemical down the sink without permission from your instructor.
3. Do not taste chemicals or pipette solutions by mouth, unless specifically instructed to do so by your instructor.
4. Wash your hands if you contact any chemical solution. Assume that all reagents are poisonous and act accordingly. Read labels on chemicals for any safety precautions and know the nature of the chemicals you are using.
5. Students with special conditions (pregnancy, nursing mothers, allergies, depression of immune system through such things as disease, chemotherapy, transplants, etc.) should be aware that science laboratories contain materials which, if handled improperly, may have a hazardous effect on them. These students should contact their doctor for advice about continuing in the laboratory. Students who wish to withdraw from a laboratory after consultation with their doctor should submit a letter from the physician within the first two weeks of class indicating that the student should not continue in the laboratory due to a health risk. Information about the chemical compounds used in science laboratories is available from the lab coordinator.

Biohazard safety

1. Any biologically contaminated items (toothpicks, sheep blood, swabs, and slides) must be placed into the appropriate disposal container as indicated by your instructor.
2. Do not use the microscopes if you have an eye infection.
3. Preserved animals that are used over multiple lab periods must be sprayed with preservative, placed in an appropriate storage bag, sealed, and placed in your group's bin or can at the end of each lab period. Any parts from the animals must be discarded into the biohazard container as indicated by your instructor. Organisms that are used for only one class period must be discarded into the biohazard container as well.

Last Day to Drop/Withdraw: It is your responsibility to withdraw from this course if you no longer want to remain in the course. I will not withdraw you for lack of attendance. You will be assigned the grade you have earned if you stop attending class with zeroes for all missed exams and missed quiz scores. In other words, you will fail the course if you stop attending class and you don't withdraw yourself. The deadline to withdraw from 15-week session courses without evaluation (receive "WQ" on your transcript) is **Monday, November 7.**

Return of graded materials:

All graded materials will be returned within one week of submission. After returning materials, there will be a one-week window of opportunity for students to have corrections made to scores on these

materials. Exam grading keys will be available for review by any student on the date that the exam is returned. After this date, grading keys only will be available during office hours or a scheduled appointment. After the one-week window, the electronically recorded score will become the permanent score in a spreadsheet.

Academic Honesty:

Each student is charged with the responsibility of maintaining all requirements as outlined in the undergraduate catalog in the section entitled "Academic Honesty Policy." Intentional cheating can result in loss of assignment credit, course credit, and/or failure in the course. Intentional acts of cheating can also result in dismissal from UHCL.

The first violation of the Academic Honesty Policy will result in a grade of "0" (zero) for that graded assignment and submission of the associated university paperwork. The second violation will result in assignment of a grade of "F" for the course and submission of the associated university paperwork. If you are caught cheating on the final exam, you will fail the course (the grade of "F" will be assigned) and the associated university paperwork will be submitted.

Extra Credit: You are expected to attend and to master the material presented during the lectures and from your reading of the textbook (and any supplemental handouts), and your grade will be determined solely on the basis of your performance on the criteria listed under the heading of "Grading". Therefore, there will be **NO opportunity for you to earn extra credit by individual efforts** such as out-of-class papers, book reports/reviews or any other type of project that might be submitted for this purpose.

Electronic Devices: Use of tablets (or similar technology) is required for some lab activities. A tablet will be provided to you for use in those lab activities where internet access is required for data acquisition or analysis. You are permitted to use your own device however the university and your instructors will not be responsible for any financial costs associated with required or recommended applications (apps) or damages incurred during use of your personal electronic device (e.g. cell phones, computers, etc.). Additionally, these devices are very distracting and may be damaged by chemicals used in the lab. Use of electronic devices during unauthorized times in the lab is not permitted. In order to avoid damage to electronics associated with lab supplies, please put them away during lab activities other than those requiring their use.

Classroom Conduct: Disruptive student behavior in an academic setting is defined as any behavior that interferes with teaching, administration, university activities, and the collegiate learning process. Determination of a behavior as disruptive is at the discretion of faculty or staff and can be dependent upon many factors. In the case where a student behavior is determined to be a disruption, you will be subject to the university Code of Conduct.

Students with Disabilities:

It is university policy, in accordance with 504/ADA guidelines, that no otherwise qualified disabled individual shall, solely by reason of disability, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any academic activity. Disabled students may request academic adjustments and auxiliary aids through the Office of Disability Services (SSCB 1302, Tel. 281-283-2648). Students who are registered with the office will have the documentation provided to the instructor within a timeframe as to allow accommodations to be made.

6 Drop Rule Limitation:

SB 1231 prohibits students from enrolling for the first time as a freshman during the fall 2007 academic term or any term thereafter from dropping more than a total of six courses in their entire undergraduate career. This total includes any course a transfer student has dropped at another 2-year or 4-year Texas public college or university. This does not apply to courses dropped prior to the census date (See Academic Calendar at www.uhcl.edu/records) or to courses for which the students receive an administrative withdrawal noted with a grade of "WX" and does not apply if the student withdraws from the term or session. More information can be found in the Student Handbook.

Policy on receiving an Incomplete:

The university policy (see Undergraduate Catalog) regarding the grade of "I" will be followed strictly. This grade is available only to students who, because of circumstances beyond their control, are unable to complete a relatively small part of the course, and who are passing the course at that time. If an Incomplete is granted, the missing work must be made up within the guidelines of the Undergraduate Catalog and the time limit set by the instructor.

Statement of Non-Discrimination: University of Houston - Clear Lake supports the Civil Rights Act of 1964, Executive Order #11246, Title IX, of the Educational Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act. No person shall, on basis of age, race, religion, color, gender, sexual orientation, national origin or disability, be excluded from participation in, or be denied the benefits of, or be subjected to discrimination under any program or activity of the college. Any individual with a grievance related to the enforcement of any of the above provisions should contact the Director of Human Resources or Ombudsperson.

Grades at the end of the Semester: Reports of student final grades will available via e-services. Due to privacy concerns, early release of final grades will only be done in person.

Course Schedule:**Tentative Schedule of Classes**

Week	Date	Lab Exercises (included activities)
1	August 26	Paperwork Module A: Basic Skills – Ex. 1: Sampling Techniques (1,2)
2	September 2	Module A: Basic Skills – Ex. 2: Hypothesis Testing (1-3) Set up Flour Beetles
3	September 9	Module A: Basic Skills – Ex. 3: Mapping Techniques (1-5)
4	September 16	Test 1 Module F: Populations – Ex. 1: Changes in Population Size (1) Count beetles
5	September 23	Module F: Populations – Ex. 2: Birth Rates (1-5)
6	September 30	Module F: Populations – Ex. 3: Death Rates (1-2) Count beetles
7	October 7	Test 2 Module G: Soil – Ex. 1: Feeding a Hungry World (1-4)
8	October 14	Module G: Soil – Ex. 2: Soil Development (1-2E) Set up Winogradsky Columns Count beetles
9	October 21	Module G: Soil – Ex. 3: Plant Nutrition, Erosion, and Agriculture (1-5) Observe WC slides
10	October 28	Test 3 Module B: Ecology – Ex. 1: Preliminary Survey (1-3) Count beetles Observe WC slides
11	November 4	Module B: Ecology – Ex. 2: Ecological Survey (1-2)
12	November 11	Module B: Ecology – Ex. 2: Ecological Survey (3 [birds only]) Observe WC slides
13	November 18	Module B: Ecology – Ex. 3: Survey Analysis (1-2)
14	November 25	No Lab – Thanksgiving Week
15	December 2	Test 4