



The University of Texas at El Paso
Department Earth, Environmental, Resource Sciences
Syllabus



ESCI 1101 Course Information – Fall 2024

ESCI 1101: Environmental Science Lab

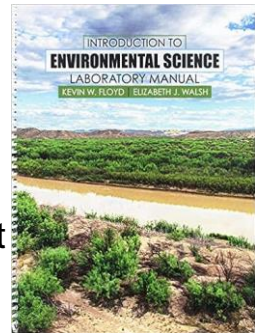
CRN # section: All

Biology Room: B326

Instructor: Omar Belhaj, Ph. D Office Hours: By appointment

Location: B326

Email: osbelhaj@utep.edu



Required Text: *Each student is required to have a lab manual*

The Lab Manual is available at the Bookstore. *Introduction to Environmental Science – Laboratory Manual. Floyd & Walsh 2022.*

COURSE OBJECTIVES AND UNIVERSITY LEARNING OUTCOMES:

There are two main purposes for the labs:

- 1) To show students how different parts of the environment interact, how we measure properties of these features, and detect environmental disturbances such as pollution
- 2) Teach practical skills for use in the lab and field.

Some labs illustrate observing the environment and collecting samples, while others teach specific skills.

Students are expected to:

- 1) **Learn concepts and vocabulary.** Students will explore several important concepts that are of concern to us as citizens, educators, and scientists.
- 2) **Learn how scientists think.** Scientists observe, question, and analyze; you will be expected to do the same.
- 3) **Investigate real-world examples.** Students will be investigating soil, water, biota and associated issues from the El Paso area.
- 4) **Practice independent thinking.** Students will critically evaluate the information they receive regarding environmental issues so they can make informed and independent decisions.
- 5) **Enjoy.** This should be a class where you learn a lot and also have a good time. Participation is a key to enjoyment.

Process:

Before each class:

- * Read the assigned materials
- * Complete the pre-lab quiz (must be turned in at the beginning of class)
- * Identify concepts that are central to understanding the environmental issue to be discussed
- * Prepare a list of questions from the reading for which you need further clarification (you usually will get an opportunity to ask those questions in class).

In class:

- * Most classes will begin with a quiz over concepts learned in the previous class. These will last about 10 minutes. There are no make-ups for missed quizzes (see below).
- * Take careful notes
- * Ask questions if you are not sure how to do something
- * Be an active participant!!

Evaluation of work:

There are a **total of 500 points possible for this lab**. There is a form at the end of the syllabus for you to keep track of your grades. We will **post grades on Blackboard** at least once a month.

Quizzes: There will be **quizzes most weeks**. These will usually be split between a **pre-lab quiz** that will be collected at the beginning of the lab and an **in-lab quiz**. The pre-lab quiz will be posted on **Blackboard** and will cover material for the lab that we will conduct that day. The goal of the pre-lab quiz is for you to become familiar with the concepts and activities for that day's lab before coming to class. That will help you understand what we will be doing and why we will be doing it. The answers will usually be found in the PowerPoint lecture slides and the lab instructions.

There will also be an **in-lab quiz** that will cover material **from the previous week's lab**. This part of the quiz will be given promptly at the beginning of the lab, and it will not be given to latecomers. Each **quiz is worth 10 points** (usually split 5 points for the pre-lab and 5 points for the in-lab), and there will be **10 quizzes during the semester**. The **last two pre-lab quizzes** (numbers 11a and 12a) will be **extra credit**.

Lab assignments: **All labs** will have questions associated with them. You are allowed to complete lab *activities* in groups and **can discuss the answers** to the questions in groups, but you must **write your own answers** to the questions unless otherwise instructed. **Each lab assignment** is worth **20 points**, and there will be a total of **12 lab assignments during the semester**, plus a final lab assignment for extra credit (number 13).

Energy white paper: We are going to do a mock El Paso Electric company hearing about potential energy sources for generating electricity to meet El Paso's future needs. Each group will be assigned a different energy source (solar, wind, natural gas, coal, or nuclear). During the lab the week of **Sept 17-19** each group will make a short presentation about why their source is the best option, followed by a discussion about the strengths and weaknesses of each energy source. To prepare, each group will complete a short (2–3 page) white paper about their energy source. More details will be provided early in the semester. The white paper is worth **25 points**, and the presentations and discussion will be graded as the lab assignment for that week (worth **20 points**).

UTEP Green Fund proposal and peer review: The project for the lab is a simplified version of a proposal to the UTEP Green Fund. The Green Fund is a \$3 per student per semester fee that yields up to \$40,000 per year for campus sustainability projects (<https://www.utep.edu/student-affairs/greenfund/>). This semester, you and a partner will 1) perform an assessment of the campus ecological footprint, 2) present your ideas of how to use Green funds to improve the sustainability of some aspects of the campus footprint, and 3) write a 2–3 page proposal of your ideas (both a rough draft for peer review and a final draft). Details will be provided in the lab. You are required to go to the **writing center** at the library before turning in the proposal. The first draft will be due the week of **Sept 16th**, the peer reviews will be due the week of **Oct 7th**, and the final draft will be due the week of **Nov 4th**. The peer review of the written proposals is worth **20 points**, and the final proposal is worth **50 points**.

Worm food: Each student will need to bring in food waste suitable for worm composting one time during the semester. Details will be provided the first week of the semester, but suitable foods are generally vegetables and fruits, except citrus. No meats, breads, or other animal products. Bringing in the worm food on time and with only the correct food is worth **5 points**.

Final exam: The final lab exam is comprehensive and will come from the quizzes and assignments, typically about 3–5 questions per lab. **Please save your work** as it is returned to you; you will need it to study with. The final exam is worth **60 points** and will be given the final week of class (the week before finals).

Extra credit: There will be several opportunities for extra credit throughout the semester. There will be a variety of different activities that you may attend, such as meetings of environmental organizations, work days at local parks, and seminars on campus. We will post details on Blackboard as we learn about the events. You can only attend approved events for extra credit, but we encourage you to let your TA know about possible events.

For each event, you must submit a written description of three new things you learned about the environment/environmental science. You may submit **two** extra credit write-ups, and you can earn up to **10 points** on each. To earn the full number of points, you must **explain** what you learned, not just list three facts. The write-ups must be turned in **within two weeks of the event**.

Missed Assignments and Late Work: There will be no makeups on any of the assignments without a university or doctor's excuse, quizzes, or the Green Fund Proposal. Late work is not accepted and will count as a 0.

Grading:

There are no exceptions to the grading scale presented below.

A = 450 – 500 points (100 – 90%)

B = 400 – 449 points (90 – 80%)

C = 350 – 399 points (80 – 70%)

D = 300 – 349 points (70% - 60%)

F = ≤ 299 points (below 60%)

COURSE POLICIES:

POLICY ON CLASS PARTICIPATION: You are expected to come to class prepared to **answer questions** about the assigned lab. Always bring a pen and paper. **Pop quizzes** may be given at any time during the lab period. The instructor will post grades electronically, but **students are responsible for knowing their grades at all times**.

POLICY ON CELL PHONES: Do NOT have them on or out in class.... this includes texting! **Cell phones can be confiscated** for the class period if used in the lab.

POLICY ON ALL OTHER ELECTRONIC DEVICES: You cannot surf the internet, watch movies, listen to music, etc., in the lab. You will be asked to leave if this happens.

POLICY ON MAKE-UP QUIZZES AND EXAMINATIONS: NO make-up quizzes or exams will be given for reasons **except illness (doctor's note required) or when a student is on official University business (documentation required)**. Make-ups **must be scheduled** within a week of when the quiz or test was given.

POLICY ON CAMPUS CARRY: Persons holding a Concealed Handgun License can lawfully carry their handgun into a UTEP classroom as long as the gun remains concealed. Open carry remains prohibited on campus. In other words, none of us should see (or be able to tell that there

is) a gun at UTEP. Call the University Police at 747-5611 or dial 911 if you see any individual on campus with a handgun or other type of weapon. For more information on campus carry, see <https://www.utep.edu/campuscarry/>; for more information on overall campus safety, see <https://www.utep.edu/emergency/>. However, the laboratory is a designated Exclusion Area, and no concealed handguns are permitted.

POLICY ON ACADEMIC INTEGRITY: Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes but is not limited to, **cheating, plagiarism, and collusion**. **Cheating** may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. **Plagiarism** occurs when someone intentionally or knowingly represents the words or ideas of other persons as one's own. **Collusion** involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will **not be tolerated**.

While you will be working in lab teams, the work you submit for assessment must be evaluated on its own merit. Therefore, team members' **reports and work should reflect the individual's thoughts**. Do NOT turn in 3 near-duplicate reports with different names or **everyone involved will be sent to the Dean of Students** for possible **disciplinary action**. Students may be **suspended or expelled from UTEP for such actions**. Yes, we have had to deal with this problem in the past, and we are not lenient. You can calculate the consequences. All university guidelines will be strictly followed. Please read these guidelines carefully. The guidelines can be found online at: <https://www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html>.

GUIDANCE ON ARTIFICIAL INTELLIGENCE (AI): No use of AI (ChatGPT, MightyGPT, etc....) allowed in the course.

POLICY ON DISRUPTIVE BEHAVIOR: Any student who disrupts the class will be asked to leave and will be referred to the Dean of Students.

DISABILITY STATEMENT: If you have a disability and need classroom accommodations, please get in touch with The Center for Accommodations and Support Services (CASS) at 747-5148 or by email at cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass. *CASS Staff are the only individuals who can validate and, if need be, authorize accommodations for students with disabilities.*

MILITARY STATEMENT: If you are a military student with the potential of being called into military service and/or training during the course of the semester, you are encouraged to contact the instructor regarding these matters. You must let us know during the first two weeks of the semester.

DROP POLICY (College of Science): All grades of Incomplete must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, departmental chair, and the dean. Although UTEP will allow a maximum of one year to complete this contract, the College of Science requests it be limited to a month based on the completion date. A grade of Incomplete is only used in extraordinary circumstances confined to a limited event such as a missed exam, project, or lab. If the student has missed a significant amount of work (e.g., multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted. The drop deadline is **1 November 2024**.

TENTATIVE LAB CALENDAR

| Week | Lab | Topic | Pre-lab quiz | Pre-lab quiz topic | In-lab quiz | In-lab quiz topic | Assign | Assignment topic |
|--------------|-----|---|--------------|---|-------------|---------------------------------|--------|------------------------------|
| Aug 27-29 | 1 | Intro/Ecological footprint/Worm composting/Safety | 0 | Pre-assessment | - | - | 1 | Ecological footprint |
| Sep 03-05 | 2 | Campus ecological footprint | 1a | Campus ecological footprint | 1b | Ecological footprint | 2 | Campus ecological footprint |
| Sep 10-12 | 3 | Vehicles & Climate Change | 2a | Vehicles & Climate Change | 2b | Campus ecological footprint | 3 | Vehicles & Climate Change |
| Sep 17-19 | 4 | Energy Debate | 3a | Energy scenarios | 3b | Vehicles & Climate Change | 4 | Energy Debate |
| Sep 24-26 | 5 | Introduction to water chemistry, field trip prep | 4a | Water Chemistry | 4b | Energy scenarios | 5 | Water Chemistry |
| Oct 01-03 | 6 | Field trip to Ascarate Lake | | | 5b | Water Chemistry | 6 | Water Sampling |
| Oct 08-10 | 7 | Aquatic Biodiversity | 5 | Aquatic Diversity | | | 7 | Aquatic Diversity |
| Oct 15-17 | 8 | Doubling Up | 6a | Population growth | 6b | Aquatic Diversity | 8 | Population growth |
| Oct 22-24 | 9 | Set up algae biofuel growth experiment | 7a | Algae biofuel growth | 7b | Population growth and nutrients | - | Algae biofuel growth |
| Oct 29-31 | 10 | Algae biofuel population growth and measuring nutrients | 8a | Algae biofuel Population growth and nutrients | 8b | Set up Algae biofuel growth | 9 | Algae biofuel growth results |
| Nov 1 | | Drop deadline | | | | | | |
| Nov 05-07 | 11 | Soils | 10a | Soils | 10b | Algae biofuel growth | 11 | Soils |
| Nov 12-14 | 12 | Worm composting and plants | 11a | Worm composting and plants | 11b | Soils | 12 | Worms and plants |
| Nov 19-21 | | Field trip to desalination plant | | | | Worm composting and plants | 13 | Desalination |
| Nov 26-28 | 13 | No Labs – Thanksgiving Break | | | | | | |
| Dec 03-05 | 14 | Lab Final | | Comprehensive exam | | | | |

GRADE TRACKING FORM

| | Points possible | Points earned |
|-----------------|-----------------|---------------|
| Quiz 1a | 5 | |
| Quiz 1b | 5 | |
| Quiz 2a | 5 | |
| Quiz 2b | 5 | |
| Quiz 3a, b | 10 | |
| Quiz 4a | 5 | |
| Quiz 4b | 5 | |
| Quiz 5a | 5 | |
| Quiz 5b | 5 | |
| Quiz 6a | 5 | |
| Quiz 6b | 5 | |
| Quiz 7a | 5 | |
| Quiz 7b | 5 | |
| Quiz 8a | 5 | |
| Quiz 8b | 5 | |
| Quiz 9a | 5 | |
| Quiz 9b | 5 | |
| Quiz 10a | 5 | |
| Quiz 10b | 5 | |
| Quiz 11a* | 5 | |
| subtotal | 100 | |

Assignments denoted with * are extra credit.

| | Points possible | Points earned |
|--------------------|-----------------|---------------|
| Energy white paper | 25 | |

| Grade | Points required |
|----------|------------------|
| A | 450 - 500 |
| B | 400 - 449 |
| C | 350 - 399 |
| D | 300 - 349 |
| F | ≤ 299 |

| | Points possible | Points earned |
|-------------------|-----------------|---------------|
| Lab assignment 1 | 20 | |
| Lab assignment 2 | 20 | |
| Lab assignment 3 | 20 | |
| Lab assignment 4 | 20 | |
| Lab assignment 5 | 20 | |
| Lab assignment 6 | 20 | |
| Lab assignment 7 | 20 | |
| Lab assignment 8 | 20 | |
| Lab assignment 9 | 20 | |
| Lab assignment 10 | 20 | |
| Lab assignment 11 | 20 | |
| Lab assignment 12 | 20 | |
| Lab assignment 13 | 20 | |
| subtotal | 240 | |

| | Points possible | Points earned |
|-----------|-----------------|---------------|
| Worm food | 5 | |

| | Points possible | Points earned |
|----------------------------------|-----------------|---------------|
| Green Fund proposal: Peer review | 20 | |
| Green Fund proposal: Final Draft | 50 | |

| | Points possible | Points earned |
|-----------|-----------------|---------------|
| Lab final | 60 | |

| | | |
|------------------------|----|--|
| <i>Extra credit 1*</i> | 10 | |
| <i>Extra credit 2*</i> | 10 | |

| | | |
|---------------------|------------|--|
| Total points | 500 | |
|---------------------|------------|--|