

Introduction to Environmental Science (ESCI1301) - 2021 Spring

COVID-19 Precaution Statement:

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit www.epstrong.org.

Format:

In-person

Meeting times:

MW 13:30 -14:50

UGLC 346

Instructor:

Dr. **Jie Xu**, Geological Sciences, Room 319, jxu2@utep.edu

Office hours: every Thursday 11:00 – 12:00 or appointments via email (both in-person and virtual meetings through Zoom are acceptable)

Textbook:

Essential Environment, Withgott and Laposata (highly recommended)

Course Description:

This introductory course is designed to be a survey of various areas that fall under the umbrella of environmental science. The lectures will cover the following major topics: (1) Sustainability and scientific methods; (2) environmental policy, and environmental justice; (3) population and community ecology, (4) human population, food, and soil; (5) surface and ground water; (6) atmosphere and air pollution; (7) climate change; and (8) renewable and non-renewable energy. Additionally, we may discuss about local/regional environmental problems.

Learning Goals:

Upon successful completion of this course through lectures, post-class quizzes and assignments, and forum discussions, I expect you to:

Knowledge-wise

- Comprehend the concept of sustainability and how it may affect our future
- Understand some of the basic concepts such as systems, cycles, flows, and feedbacks, that characterize and govern the structure, function, and interactions of the atmosphere, the hydrosphere, the lithosphere, as well as the biosphere
- Refine skills in analysis and evaluation of complex systems and be familiar with scientific methods by which knowledge is obtained and advanced in environmental science
- Demonstrate a solid scientific base when discussing or analyzing environmental policies or environment-related news at various levels

Skill-wise

- Grow in scientific reasoning skills involving inquiry, evidence evaluation, inference and argumentation that support the formation and modification of concepts and theories about the natural and social worlds
- Be effective communicators of scientific information in graphical, spatial, and written forms

Grading Policies:

The final grade is based on the total score of several major components including: 1 final exam, 1 mid-term exams (we have two midterms altogether and you can pick the higher one and drop the other), post-class quizzes & assignments (we have about 1 quiz or assignment each week), and online surveys (these are free credits for grab as long as you participate). Extra credit options may become available through the course. The purpose of the extra-credit options (if available) is to encourage you to dig more into the current environmental issues either regionally or globally that are rooted in Earth and environmental science.

- **Final exam (35%)**
- **One midterm exam (of your choice) (20%)**
- **Quizzes + assignments (35%)**
- **Participation in surveys (10%)**

> 90% - A; 89-80% - B; 79-70% - C, 69-60% - D; < 60% - F

(Please be aware that percentiles will be used to assign the final grades)

Important Notes:

- **Contents on Blackboard:** the lecture slides, quizzes, and assignments materials will be all available on Blackboard. Printed copies of the assignment will be provided if you prefer. Both online and in-person submissions of the assignment will be accepted.
- **Quiz and Assignment Deadlines:** For each quiz and assignment, there is an associated deadline, which is the end of day, Friday of the week the quiz/assignment is posted. This information will also be specified along with each quiz/assignment and mentioned in lectures. Please pay close attention to the deadlines and ensure on-time submissions of each task. Late quizzes or assignments will not be accepted except for special conditions that need to be back with evidence.
- **Exam format:** the exams are designed as in-person exams done in classrooms. (This is subject to change depending on the COVID situation.)

- **Exam Policy:** Exams are closed-book, and should be completed independently. No make-up tests will be given, except for critical illness (documentation required), official University business (instructor's prior approval and documentation required), or extreme emergencies (documentation required).
- **Honor codes:** academic integrity is the fundamental principle for all UTEP students, staff, and faculty. Refer to the UTEP Student Handbook where scholastic dishonesty is defined (<http://sa.utep.edu/osccr/academic-integrity/>). Proven violations of these detailed regulations may result in any of the consequences outlined in the Handbook.

Drop date:

The College of Science aligns with UTEP's posted drop date of **October 29th, 2021** for the Fall 2021 semester. We may not approve student- or faculty-initiated drop requests for a course after that date, except under circumstances of complete withdrawal of all courses due to medical or non-medical reasons.

Incomplete grades:

All grades of Incomplete (I) 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 one month based upon completion data. A grade of *Incompletion* is only used in exceptional circumstances.

Students with Disabilities:

If you have a disability and may need accommodations in this class you are encouraged to contact the Center for Accommodations and Support Services (CASS) at 915-747-5148 or cass@utep.edu within the first two weeks of class. Here is the link to the resources available to students with disabilities <http://admin.utep.edu/Default.aspx?tabid=61021&submenuheader=2>.

Military Service:

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.

| <i>Week</i> | <i>Date</i> | <i>Topics</i> | <i>Textbook</i> |
|-------------|------------------------------|---|-----------------|
| 1 | Aug 23 Aug 25 | Introduction Scientific methods and ethics | Ch 1 |
| 2 | Aug 30 Sept 1 | Basics of environmental systems + Online Quiz 1 Biodiversity I – life, evolution and adaptation I | Ch 2 Ch 3 |
| 3 | <i>Sept 6</i> Sept 8 | <i>Labor Day (no class)</i> Biodiversity II - extinction | |
| 4 | Sept 13 Sept 15 | Population ecology – basics + Online Quiz 2 Community ecology –basics and significance | Ch 3 Ch 4 |
| 5 | Sept 20 Sept 22 | Human population + Project Assignment 1 Environmental economics | Ch 6 Ch 5 |
| 6 | Sept 27 Sept 29 | Environmental policies I + Online Quiz 3 Environmental policies II | Ch 5 |
| 7 | Oct 4 Oct 6 | Mid-Term 1 Soil and agriculture I | Ch 7 |
| 8 | Oct 11 Oct 13 | Soil and agriculture II + Assignment 2 GMO food | Ch 7 |
| 9 | Oct 18 Oct 20 | Surface fresh water + Online Quiz 4 Surface fresh water & Groundwater | |
| 10 | Oct 25 Oct 27 | Groundwater + Assignment 3 The world ocean I | Ch 12 |
| 11 | Nov 1 Nov 3 | The world ocean II + Online Quiz 5 Water resource uses | Ch 12 |
| 12 | Nov 8 Nov 10 | The atmosphere - basics Mid-Term 2 | Ch 12 |
| 13 | Nov 15 Nov 17 | Air quality and pollution + Assignment 4 Global climate system I | Ch12 Ch 13 |
| 14 | Nov 22 Nov 24 | Global climate systems II + Assignment 5 Energy – fossil fuels | Ch 13 Ch 14 |
| 15 | Nov 29 Dec 1 | Energy – fossil fuels (cont'd) Energy – nuclear + renewable energy | Ch 14 Ch 15 |
| 16 | <i>Dec 6</i> Dec 8 | <i>Final Exam Week (no class)</i> Final Exam 4:00-6:45pm | |

***This schedule is subject to modification.