

Introduction to Environmental Science (ESCI1301/CRN13980)_Fall 2019

MW 10:30 -11:50

Undergraduate Learning Center 220

Instructor:

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

Office hours: Friday 11:00-12:00 or by appointment via email

Textbook:

Essential Environment, 5th edition, Withgott and Laposata (ISBN 978-0-321-98457-9)

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 modules: (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 biogeochemical cycles, and local/regional environmental problems.

Learning Goals:

Upon successful completion of this course through lectures, in-class activities, and small group 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 oral, graphical, and spatial forms

Grading Policies:

The final grade is based on the total score of four components: **1 final exam**, **2 mid-term exams**, and **in-class participation**. Extra credit options may become available through the course. The purpose of these 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.

One final exam (35%) Two mid-terms (20%×2)
In-class quizzes + group activities (25%)

> 90% - A; 89-80% - B; 79-70% - C, 69-60% - D; < 60% - F (Relative grades will be used to assign final grades)

Notes:

- For most classes, we will try to have in-class quizzes (in the format of 1-3 multiple choice questions). **A smartphone, tablet, or laptop is required to participate in these quizzes** using REEF system (an additional instruction sheet has been provided in Blackboard) (laptops can be loaned through the library service if needed). In-class quizzes will count towards 25% of your final grade. From all the quizzes given in the semester, 25% of the lowest scores will be dropped. In-class activity credits will be added to this category. In-class participation and successful completion of the activity sheets are both required for obtaining the associated credits.
- For the two midterms and one final, Scantrons will be needed (#:MMS011157404). They are available at the UTEP bookstore. Please get them ahead of time.
- **Exam policy:** No make-up exams will be given for reasons other than critical illness (documentation required), official University businesses (instructor's prior approval and documentation required) or extreme emergencies (documentation required).
- **Honor codes:** academic integrity is the fundament 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 **November 1** for the Fall 2019 semester. We will not approve any 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 26 Aug 28	Introduction, sustainability, scientific method, environmental systems I	Ch 1
2	Sept 2 Sept 4	<i>Labor Day Holiday - No class</i> Environmental systems II	Ch 2
3	Sept 9 Sept 11	Biodiversity and population ecology	Ch 3
4	Sept 16 Sept 18	Community ecology Environmental policy, environmental justice I	Ch 4
5	Sept 23 Sept 25	Environmental policy, environmental justice II Human population	Ch 5
6	Sept 30 Oct 2	Human population project presentation Mid-Term 1	Ch 6
7	Oct 7 Oct 9	Soil, agriculture and food	Ch 7, 9
8	Oct 14 Oct 16	Environmental health and toxicology Fresh surface water	Ch 12
9	Oct 21 Oct 23	Groundwater, oceans and coasts	Ch 12
10	Oct 28 Oct 30	Atmosphere and air pollution	Ch 13
11	Nov 4 Nov 6	Climate-related natural disasters Mid-Term 2	handout
12	Nov 11 Nov 13	Global climate change	Ch 14
13	Nov 18 Nov 20	Mining Non-renewable energy	Ch 11 Ch 15
14	Nov 25 Nov 27	Renewable energy	Ch 16
15	Dec 2 Dec 4	Waste management Review session – Q&A	Ch 17
16	Dec 9 Dec 13	<i>Final Exam Week</i>	

The above schedule is subject to changes.