

Human Ecology in the Era of Climate Change

312231030

2024 Spring

Syllabus

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Office hours: Monday 11:00am-12:00pm, Tuesday 2:00pm-3:30pm, Wednesday 11:00am-12:00pm, or by appointment

TA: 李思睿

Note: This syllabus is subject to change.

Course description

This lecture-based course provides an in-depth exploration of the dynamic relationship between humans and their environment, with a focus on the challenges and opportunities presented by climate change. Through a multidisciplinary lens, students will examine the intricate interplay between social, cultural, economic, and environmental factors in shaping and responding to the changing climate. The course will equip students with the knowledge and critical thinking skills needed to understand, analyze, and address the complex issues arising in the era of climate change.

Course objectives

- Understand the dynamic relationship between human and their environment.
- Understand the challenges and opportunities presented by climate change.
- Learn quantitative tools to analyze and evaluate human-nature interaction.
- Reflect on our position in this world and think about what we can do.

ABET outcomes

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
2. An ability to communicate effectively with a range of audiences;
3. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
4. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
5. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Grading Rubric

The students are evaluated on their participation in class, individual learning and group work based on the following grading rubric:

Attendance	20%
Participation	20%
In-class work	10%
Final project	30%
Final exam	20%

NO MAKE UP is accepted for any of the above grading criteria.

Video and Audio Recording Policy

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion, and activities without the advance written permission of the instructor, and any such recording properly approved in advance should be used solely for the student's private use.

Academic Integrity

We are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). Unacknowledged direct copying from the work of another person/group/source, or the close paraphrasing of such, is called plagiarism and is a serious offense, equated with cheating in examinations. This applies to copying both from other students' work and from published sources. Paraphrasing, when the original statement is still identifiable and has also no acknowledgement, is plagiarism. The use of artificial intelligence also requires explicit citation and specification of contribution. The Code of Student Conduct allows Sichuan University to take disciplinary action if students don't follow this community expectation.

Tentative Lecture Schedule

- Lecture 1 Introduction: course, human ecology, climate change
- Lecture 2 Human development, Biophilia
- Lecture 3 The big C and global carbon system
- Lecture 4 Climate Change, Ecosystem and Biodiversity
- Lecture 5 Climate Change and Agriculture
- Lecture 6 Urban development in a changing climate
- Lecture 7 Resilience and adaptation strategy
- Lecture 8 Adaptation and mitigation
- Lecture 9 Group work: case study on sustainable campus
- Lecture 10 Health and wellbeing under changing climate
- Lecture 11 Economics of climate change
- Lecture 12 Carbon footprint, ecological footprint, and the economics of climate change
- Lecture 13 Social impact of climate change
- Lecture 14 Climate policy and governance
- Lecture 15 Group project presentation
- Lecture 16 Group project presentation

Lecture 17 Final Exam