Human Ecology in the Era of Climate Change
312231030
2025 Spring
Syllabus

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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%
In-class work (quiz, group work)	20%
Homework (news report)	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 should 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.

Policy on Utilization of Artificial Intelligence

Students in this course may choose to incorporate artificial intelligence (AI) in the following aspects of their study: information gathering, coding, translation/interpretation, visualization, cross-referencing, and other relevant and efficient ways for self-learning. Students are EXCPLICITLY FORBIDDEN from using AI to 1) complete the logic of the assigned task and 2) perform entire assigned tasks. If students choose to incorporate AI, they MUST explicitly disclose the following information: 1) acknowledgement of the AI program/platform, 2) proportion/percentage contribution from AI, 3) prompts/logic/questions used to elicit AI response. All the materials must be submitted before receiving credit for the assigned task/homework/group work. Unacknowledged AI contribution will result in automatic "0" in the assigned task/assigned (if it is individual work, the individual student will receive no credit; if it is group work, the entire group will receive no credit). Additionally, AI-generated content can contain inaccuracies, it is the student's responsibility for verifying the factual correctness. Students are strongly encouraged with consult with teaching team for incorporation and acknowledgement of AI utilization before proceeding.

Tentative Lecture Schedule (Subject to Change)

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
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 policy and governance
Lecture 14 Guest lecture
Lecture 15 Group project presentation
Lecture 16 Group project presentation
Lecture 17 Final Exam