

SYLLABUS

Spring 2021

ENVR 475 & 775 - Global Climate Change: Interdisciplinary Perspectives

Class meets: Tuesdays 3:30-4:45 PM

Location: Online

Instructor: Jason West, Environmental Sciences & Engineering (jasonwest@unc.edu)

Prerequisites: None. Open to all undergraduate, graduate, and professional students.

Course Credit: 1 Credit.

- All **undergraduate** students must register for ENVR 475 and take the class as Pass/Fail.
- All **graduate** students must register for ENVR 775 and take the class for a grade.

Course Description

Climate change has been called one of the most important issues of the 21st century. It is a defining challenge for the current generation of students. The Earth's climate is influenced by nearly all human activities. As the Earth's climate changes, it will have widespread effects on human societies and the world around us. Understanding and addressing the issue of global climate change requires an interdisciplinary perspective, as several physical sciences and social sciences interplay.

This course aims to increase understanding of global climate change by approaching it from an interdisciplinary perspective. Students will hear from top experts in a variety of fields on how they approach climate change. The course is organized around five inter-related themes:

- the **science** of climate change and of the human influence on climate,
- the **impacts** of climate change on human society and our environment, and means of adapting to climate change,
- global **energy**, and technological means of addressing climate change,
- **communication** of climate change, and
- climate change **policy** and international solutions.

Through this course, students will learn about our world and human interactions with it, and about the important and pressing issue of climate change. Students will also see how a complex issue like global climate change is approached from different disciplinary perspectives.

This course is designed to spark interest in climate change among students from a variety of majors across the entire UNC campus. The instructor hopes that some students will be inspired by this experience to continue to work on topics related to climate change through their own disciplines. Students who are majors in Environmental Science, or who already have a focus on climate change in their education, will also find this course worthwhile because of the high

quality of speakers that we attract. A more comprehensive understanding of climate change or of particular aspects of climate change can be obtained through more focused classes in several departments.

Course Requirements and Evaluation

The instructor hopes that everyone will have a positive experience, will interact during classes via zoom asking questions. Please be respectful of different viewpoints.

Attendance is mandatory. Students are permitted one absence during the semester. **Students who have two or more absences will receive a grade of F for the class.** But there are ways to make up for absences (see below). The first class of the semester (Jan. 19) does not count in records of attendance.

Attendance will be determined by records in zoom. If you drop off of zoom, such as if your internet fails, please make an effort to get back on quickly. To ensure that you are paying attention during class, polls will be given periodically and you're expected to answer. If you don't respond to the poll, you'll be marked absent for the class. You can check your attendance record at any time under Attendance on Sakai.

To make up for an absence, please view the recorded lecture in its entirety, read the required reading for that week, and write a 1-page essay as described below. The essay can be used for one of your essays required in the semester. Students must submit the essay within three weeks of the absence (or by May 6, if at the end of the semester).

Readings. At least one short reading will be provided for each lecture on the class Sakai site. Additional readings will also be posted and designated as optional. Please make an effort to complete the reading each week before class. Either the required reading, the optional reading, or both should be used in writing essays.

Essays. Students registered for 475 are asked to write **three** essays during the class. Students registered for 775 are asked to write **five** essays.

Essays should focus on the topic of a single class. Students should review the reading(s) provided for that class period and are required to reference at least one of those readings within their essay (how you reference the reading is not important). Essays must be typed, single-spaced and at least **one full page** with 12 point type and one-inch margins.

Essays may include a summary of the lecture and reading, but should not be only a summary. Please also provide your thoughts about what was presented, such as reactions to something said, the implications of a finding for policy, what is necessary to resolve problems, how you might help address the problems presented through your future profession, etc. Please do not write a very general essay on the problem of climate change, rather focus on the topic of one class; the Take-Home Final Exam (below) will be your opportunity to express your thoughts more generally.

To avoid having all the essays turned in at the end of the semester, and to encourage a range of topics in the essays, essays should be turned in by these deadlines. For students enrolled in **475**, please turn in your essays on Sakai by 5 PM on these dates (writing about the topic of any lecture before that date): **March 15, April 12, and May 6.**

For students enrolled in **775**, please turn in your essays on Sakai by 5 PM on these dates (writing about the topic from any lecture before that date): **March 8, March 29, April 12, April 26, and May 6.**

Take-Home Final Exam. The Take-Home Final Exam is a personal reflection. Please write on how your personal attitudes on climate change might have changed as a result of the perspectives given in this class. You could focus on climate change science, impacts, energy, policy, or any other aspect of climate change that we discussed in class. The Personal Reflection can take any form that you'd like – use the space to focus on your personal reflections that you think are most important, considering factors such as the importance of climate change for human society and the world around us. The Personal Reflection must be typed, single-spaced and at least **two full pages** with 12 point type and one-inch margins. The Personal Reflection must be turned in electronically by 5 PM on Friday, **May 7.**

Grading. Undergraduate students (475) will receive a grade of PASS if they satisfy the attendance requirement and receive a passing grade on three Essays and the Take-Home Final Exam.

Graduate students (775) must satisfy the attendance requirement, and will otherwise be graded (H, P, L, or F) on this weighting:

Essays	70%
Take-home final exam	30%

The Essays and Take-home Final Exam will be graded on the extent to which the Essays addresses the topic of the lecture, are well organized and clearly written, and express a thoughtful and forward-looking perspective on the issue. Grades will be given on this scale: H $\geq 90\%$, P 80-89%, L 60-79%, F $< 60\%$.

Schedule

Themes:	Science	Impacts	Energy	Communication	Policy
Date	Topic		Speaker		
Jan. 19	Introduction to class and basics of the Earth's climate		Jason West, UNC Environmental Sciences & Engineering		
Jan. 26	Learning from climate of the past		Donna Surge, UNC Geosciences		
Feb. 2	Observations of recent climate change		David Easterling, NOAA National Center for Environmental Information		
Feb. 9	Projecting future climate change		Jason West, UNC Environmental Sciences & Engineering		
Feb. 16	Wellness day – no class				
Feb. 23	Impacts of climate change on marine ecosystems		John Bruno, UNC Biology		
Mar. 2	Climate change and human health		Jonathan Patz, Global Health Institute, Univ. of Wisconsin		
Mar. 9	Insurance and coastal property in NC		Don Hornstein, UNC Law		
Mar. 16	Global energy and the technological challenge of reducing global GHG emissions		Noah Kittner, UNC Environmental Sciences & Engineering		
Mar. 23	Energy, cookstoves, and health in Africa		Pam Jagger, Environment & Sustainability, Univ. of Michigan		
Mar. 30	TBD				
Apr. 6	TBD				
Apr. 13	Communicating climate change		Susan Joy Hassol, Climate Communication		
Apr. 20	Ethical perspectives on climate change		Doug MacLean, UNC Philosophy		
Apr. 27	Economics and the design of policies for climate change		Billy Pizer, Public Policy and Economics, Duke Univ.		
May 4	Forging an international solution		Jonas Monast, UNC Law		