

# AOS1 Climate Change: from Puzzles to Policy

Winter Quarter 2018, Mon/Wed 12:30PM–1:45PM, Franz Hall 1178

## INSTRUCTOR:

**Prof. Alex Hall** ([alexhall@atmos.ucla.edu](mailto:alexhall@atmos.ucla.edu)), 7955 Math Sciences

Office hours and email contact: I am almost always available for about 15 minutes after class. You are also welcome to make an appointment to speak with me. Please note that I do my best to answer emails within 24 hours. However, instant responses are generally not possible.

## TEACHING ASSISTANTS:

**Matt Grieco** ([mgrieco23@ucla.edu](mailto:mgrieco23@ucla.edu)) Office hours: Tuesdays, 11 am - 1 pm, Boelter 9277 (roof)

**Matthew McKinney** ([mmckinney@g.ucla.edu](mailto:mmckinney@g.ucla.edu)) Office hours: Tuesdays, 2-4PM, Boelter 9277

**Yi-Hung Kuo** ([yhkuo@atmos.ucla.edu](mailto:yhkuo@atmos.ucla.edu)) Office hours: Wednesdays, 2–3 PM, Math Sciences 7221

Discussion sections will begin during the week of January 15.

**COURSE WEBSITE:** <https://ccle.ucla.edu>. Lecture slides will be posted on the course web site.

## OVERVIEW

This course is designed for students from all backgrounds. It has four aims:

- (1) To provide the scientific background necessary to understand climate-related issues.
- (2) To achieve a scientific understanding of the human influence on climate over the past 150 years and the coming century.
- (3) To achieve an appreciation for the role of science in shaping political debate on issues where accurate scientific information is critical.
- (4) To gain an appreciation of the economic, gender, racial, and intergenerational equity issues that human-caused climate change raises.

There will be a midterm and a final, as well as four homework problem sets.

**REQUIRED TEXT/CLICKERS:** There is no single text for this course. However, readings will be required on a regular basis throughout the quarter and will be available on the course website. The material in the readings may appear on exams, so it's essential to keep up with the reading. Please note that you are required to have a clicker for this course. Clickers are available by loan from the Office of Instructional Development (<http://lendme.oid.ucla.edu/>). You are required to register your iClicker or iClicker+ device on the course web site, by following the steps below.

1. Log into CCLE at <https://ccle.ucla.edu/> and go to AOS 1.
2. Locate the i>clicker block on the AOS 1 class site
3. Click on the “Remote Registration” link
4. Enter the i>clicker ID located on the back of the clicker.

Note that the clicker response system will be used every day in class, and you are responsible for bringing your remote daily.

**GRADING:** Clickers/Participation 10%, Homework 20%, Midterm 30%, Final 40%. Exams are based on lecture material and homework assignments. The four homework assignments are designed to highlight essential concepts. The Clicker/Participation grade will be based purely on your participation in the clicker portion of the course. For every clicker question you answer (correctly or incorrectly), you will receive one point. The total points possible will be the total number of clicker questions that end up appearing. Typically, there will be 1-3 clicker questions per class session.

## LECTURE SCHEDULE

### Part I. Introduction to Climate Science

Monday, 1/8/18 — Course Overview and Lecture 1: Global Environmental Issues and Environmental Justice  
Wednesday, 1/10/18 — Lecture 2: Heat and Radiation  
Monday 1/15/18 — no class (MLK Day)  
Wednesday, 1/17/18 — Lecture 3: Sunshine and the Greenhouse Effect  
Monday, 1/22/18 — Lecture 4: The Atmosphere  
Wednesday, 1/24/18 — Lecture 5: The Ocean  
Monday, 1/29/18 — Lecture 6: The Biosphere and the Carbon Cycle  
Wednesday, 1/31/2018 — Lecture 7: Paleoclimate and the Ice Ages  
Monday, 2/5/18 — Lecture 8: Internal Climate Variability  
Wednesday, 2/7/18 — Lecture 9: Global Climate Models and Climate Projections  
Monday, 2/12/18 — MIDTERM

### Part II. Understanding and Addressing Climate Change

Wednesday, 2/14/18 — Lecture 10: The IPCC and Observed Climate Change  
Monday 2/19/18 — no class (President's Day)  
Wednesday, 2/21/18 — Lecture 11: The IPCC and Future Climate Change  
Monday, 2/26/18 — Lecture 12: Impacts on Ecosystems  
Wednesday, 2/28/18 — Lecture 13: Impacts on Humans  
Monday, 3/5/18 — Lecture 14: Impacts on Los Angeles  
Wednesday, 3/7/18 — Lecture 15: Equity Issues  
Monday, 3/12/18 — Lecture 16: Options for Addressing Emissions  
Wednesday, 3/14/18 — Lecture 17: Toward Low-Carbon Policies  
\*If there is time we will have a lecture at the end on Climate Denialism

Wednesday, 3/21/18 — FINAL (8 AM–11 AM)

Homework and lab assignments will be posted on CCLE one week prior to their due date. **They must be turned in by 5:00 PM on the due date to your TA's mailbox** (in Math Sciences 7150). Because of the large number of students in this course, hard copies of all assignments are required. Assignments may not be emailed to the TAs. Late assignments will not be accepted. Missed exams cannot be made up unless documentation of a medical emergency on the date of the exam is provided.

### HOMEWORK DUE DATES

Homework assignment #1: 1/26/18  
Homework assignment #2: 2/9/18  
Homework assignment #3: 2/23/18  
Homework assignment #4: 3/9/18

### LABORATORY DUE DATES

If you are taking the “L” or laboratory option for this course, you will need to complete additional written assignments. (There are no additional class meetings for the laboratory option.) The laboratory section has its own CCLE page, on which lab assignments will be posted one week prior to their due date. The due dates for the lab assignments will be staggered with the homework assignment due dates as follows:

Lab assignment #1: 2/2/18  
Lab assignment #2: 2/16/18  
Lab assignment #3: 3/2/18  
Lab assignment #4: 3/16/18

## **OTHER RESOURCES**

Title IX prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. Students who have experienced sexual harassment or sexual violence can receive confidential support and advocacy at the CARE Advocacy Office for Sexual and Gender-Based Violence, 1<sup>st</sup> Floor Wooden Center West, [CAREadvocate@caps.ucla.edu](mailto:CAREadvocate@caps.ucla.edu), (310) 206-2465. You can also report sexual violence or sexual harassment directly to the University's Title IX Coordinator, Kathleen Salvaty, 2241 Murphy Hall, [titleix@conet.ucla.edu](mailto:titleix@conet.ucla.edu), (310) 206-3417.