

ATS 556: Climate Intervention To Cool A Warming Planet

Colorado State University

Spring 2022

Monday and Wednesday, 2:00-2:50 p.m.

Animal Science, Room 31

Instructor: Prof. James Hurrell (jhurrell@rams.colostate.edu)

Office hours: – by appointment

Prerequisites: None

Class Website: Canvas for ATS 556 (<http://info.canvas.colostate.edu/>)

Hurrell's Website (<https://www.atmos.colostate.edu/people/faculty/hurrell/>)

Required Textbook: None

Climate Intervention – deliberate, large-scale intervention in the climate system designed to counter global warming or offset some of its effects – could well be in our collective future, especially as the impacts of climate change become more severe and climate intervention technologies are within reach. **This course will cover:**

- The major findings of recent national and international assessments of climate change and climate change impacts
- The major characteristics of proposed climate intervention techniques
- Ethical and governance considerations of any future climate intervention efforts

Course structure: The course is offered for two credits. The class will be conducted in a lecture/discussion format. PDF files of course notes and slides will be made available by no later than the end of every class session. **Homework** will mostly involve assigned readings, which will form the basis for in-class discussion, as well as individual and group projects. **Grades** will be based on the projects and in-class discussions and exercises, including a final project that each student will present to the class. The course will facilitate broad discussion of the many facets of anthropogenic climate change and climate intervention, informed and enriched by the diverse backgrounds and perspectives of the students. Students will emerge at the end of the semester with their own views on whether it makes sense to move forward with the deployment of climate intervention techniques.

Grading:

Class Discussions: 50%

Individual and Group Projects: 25%

Final Project: 25%

Tentative Schedule (Spring 2022):

- Week 1 (Jan 17): Introductions and Welcome: Course Objective
- Week 2 (Jan 24): Anthropogenic Climate Change: Scientific Basis
- Week 3 (Jan 31): Scientific Basis
- Week 4 (Feb 7): Scientific Basis
- Week 5 (Feb 14): Class Projects - Impacts of Anthropogenic Climate Change
- Week 6 (Feb 21): Impacts, Adaptation and Mitigation Strategies
- Week 7 (Feb 28): Introduction to Climate Intervention
- Week 8 (Mar 7): Climate Intervention
- Week 9 (Mar 14): Spring Break
- Week 10 (Mar 21): Carbon Dioxide Removal (CDR) Techniques
- Week 11 (Mar 28): Solar Climate Intervention (SCI) Techniques
- Week 12 (Apr 4): CDR and SCI
- Week 13 (Apr 11): Climate Intervention: Philosophical Perspectives
- Week 14 (Apr 18): Legal Issues
- Week 15 (Apr 25): Governance Frameworks
- Week 16 (May 2): Policymaker Perspectives
- Week 17 (May 9): Finals Week (Final Project Presentations)

CLASS POLICIES

UNIVERSITY POLICIES: Students are expected to follow the CSU Student Honor Pledge (<http://tilt.colostate.edu/integrity/honorpledge/>). This course will adhere to the CSU Academic Integrity Policy as found in the General Catalog (<http://www.catalog.colostate.edu/FrontPDF/1.6POLICIES1112f.pdf>) and the Student Conduct Code (<http://www.conflictresolution.colostate.edu/conduct-code>). At a minimum, violations will result in a grading penalty in this course and a report to the Office of Conflict Resolution and Student Conduct Services.

POLICY ON COLLABORATION: Students are encouraged to discuss homework assignments. However, each student must complete their own assignment. If I determine that students are simply copying assignments, I will pursue action through the Office of Academic Integrity (<http://tilt.colostate.edu/integrity/>).

POLICY ON LATE HOMEWORK ASSIGNMENTS: Late homework assignments will not be accepted, unless alternative arrangements have been made in advance with the Instructor.

POLICY ON REMARKING HOMEWORK: Students who disagree with how their assignment or project has been marked should resubmit their work with a written explanation of their concern. The work will be re-evaluated by the instructor in its entirety.

POLICY ON MISSED PROJECTS: Alternative arrangements for completing missed projects will be made given the submission of appropriate documentation.

IMPORTANT INFORMATION FOR STUDENTS:

Masks are required inside university buildings. You must also meet university vaccine or exemption requirements.

All students are expected and required to report to the COVID Reporter (<https://covid.colostate.edu/reporter/>) when:

- You suspect you have symptoms of COVID, regardless of whether or not you are vaccinated and even if your symptoms are mild
- You have tested positive for COVID through a non-CSU testing site, such as home test or test at a pharmacy
- You believe you may have been exposed to COVID go to the COVID Reporter and follow the guidance under “I believe I have been in close contact with someone who has COVID-19.” This guidance will depend upon your individual circumstances

You will not be penalized in any way for reporting symptoms or concerns.

Do not ask me as your instructor to report for you. It is your responsibility to report through the COVID Reporter promptly.

As your instructor I may not ask you about vaccination status or if you have COVID but you may freely volunteer to send me information from a public health official if you have been asked to isolate or quarantine.

When you complete the COVID Reporter, the CSU Public Health office is notified. Once notified, that office will contact you and, depending upon each situation, will conduct contact tracing, initiate any necessary public health requirements and notify you if you need to take any steps.

If you do not have internet access to fill out the online COVID-19 Reporter, please call (970) 491-4600.

For the latest information about the University’s COVID resources and information, including FAQs about the spring semester, please visit the CSU COVID-19 site <https://covid.colostate.edu/>