Fall 2020

SUST-402 | EPS-400 | GEOG-499 | POLS-400 | Climate Change & Sustainability

Instructor:	Jessica Rowland (*she/her/hers*)
Modality:	Remote scheduled (*fully online with regularly scheduled remote class meetings*)
Class Meetings:	Via Zoom on Tuesdays and Thursdays, 2:00-3:15pm
Office Hours:	Available via Zoom, by appointment
Email:	jrowland@unm.edu
Materials:	All course material accessible on *UNM Learn*
Website:	UNM Sustainability Studies Program

Course Description: Global climate change is one of the defining issues of the twenty-first century. Despite wide-spread consensus regarding the scientific basis of climate change, it has been challenging to develop and implement an effective policy strategy worldwide. Responding to climate change is a highly political process that is shaped by many factors, including one's understanding of climate variability and the impact of anthropogenic greenhouse gas emissions, the use of science in decision making, the link between climate change and economics, the relative importance of equity and justice, the nature of collective action problems, and the role of the market in solving global environmental problems. This course explores the environmental, economic, political and social frameworks of climate change and sustainability, and offers an integrated examination of climate science, environmental economics, and climate policy initiatives.

Course Objectives:
Students will:

- Explain the scientific context of climate change
- Assess feasible climate responses using environmental economic paradigms
- Evaluate the efficacy of existing and proposed climate policy strategies
- Recommend specific courses of action for society to mitigate or adapt to climate change
- Engage in community-level climate advocacy

The SUST-402 Climate Change & Sustainability course can fulfill either the Environmental Protection or Economic Vitality area of focus requirement for the Sustainability Studies Program minor degree. To declare the Sustainability Studies minor or to discuss the program, set up a virtual meeting with Program Administrator Terry Horger via Lobo Achieve or email her at thorger@unm.edu.

Grading: Your grade will be determined from the following:

Zoom Participation	10%
Laboratory Exercises	30%
Climate Advocacy	20%
Climate Policy Proposal	40%

A+	> 99%	B+	87-89.9%	C+	77-79.9%	D+	67-69.9%	F	< 60%
A	93-99%	B	83-87%	C	73-77%	D	63-67%		
A-	90-93%	B-	80-83%	C-	70-73%	D-	60-63%		

Zoom Participation (10%): This class requires your active participation and teamwork. Your perspectives, knowledge, and enthusiasm are valuable and necessary to make the class a good experience for all involved. Please show up to the Zoom meetings ready to participate in discussions* and activities. You are expected to prepare by engaging with the day's course material (pre-recorded lectures, readings, interactive websites, etc.) *prior* to joining the Zoom meeting. Note: **Graduate students will facilitate 1-2 class discussions/activities on relevant topics related to their research.*

All assigned materials will be available on UNM Learn, organized in folders that correspond to the topics on the course schedule. *Note that supplemental readings and resources will be available in each topical folder.*

These materials are not required for the course, but are available to students who want to deepen their understanding of the week's topic, or explore alternative approaches or viewpoints.

Laboratory Exercises (30%): During the semester, students will complete three (3) interactive activities that highlight the science, economics, and policy of climate change. Students will analyze data, synthesize information, and make recommendations in the style of a climate adviser. Electronic submissions must be uploaded to *UNM Learn* by 11:59pm MDT/MST the day they are due. Late work will be accepted for only one week after the due date and will be graded down by 10 percent. Specific guidelines for each assignment will be available on *UNM Learn*. Labs #1 and #2 will be completed on your own as more traditional homework assignments; lab #3 will be completed via Zoom in small groups.

Climate Advocacy (20%): We must not forget that our individual and collective actions matter, especially at the local level. As such, students will devise a unique plan of engagement to meaningfully contribute ten (10) hours of time to the climate community during the semester.

This semester - due to the ongoing pandemic safety measures - your engagement activities can take place online (i.e., climate-related webinars, virtual symposia and tours, interviews, advocacy work, trainings, certifications, social media strategy, government meetings/working groups, directed research, etc.). You are welcome to expand the definition of "community" beyond your immediate geographic vicinity and into the larger virtual sphere. Note that students will submit a log of activities and a brief write-up detailing their contributions to community climate advocacy.

Climate Policy Proposal (40%): Students will work in teams* to complete a semester long research project on a specific policy initiative related to climate change. The project will include a 5-page research paper and an in-class presentation, with several low-stakes milestones throughout the semester. As a diverse group of subject matter experts -- equipped with an essential understanding of climate science and economics -- your team will create a concise piece of policy that aims to reduce the impacts of climate change. You must ensure that the policy will institute measurable change that can be tracked over time. The policy can address either or both mitigation and adaptation strategies. Specific guidelines will be available on *UNM Learn*. Note:**Graduate students will complete the climate policy proposal as an individual project, and formally submit the proposal 1) to the most relevant entity or 2) as a conference paper*.

CLASS POLICIES

Academic Honesty: At UNM, honesty is considered one of the cornerstones of academic development. All UNM policies regarding academic honesty apply to this course. Students should communicate and act, both in class interactions and in assigned coursework, in a manner directed by personal integrity, honesty, and respect for self and others. Academic dishonesty includes, but is not limited to, 1) plagiarism: claiming credit for the words or works of another, taken from any source – print, Internet, or electronic database – or failing to cite the source, 2) fabricating information or citations, 3) facilitating acts of academic dishonesty by others, or 4) submitting the work of another person or 5) submitting work previously used for another course. Any incident of blatant academic dishonesty will result in the instructor reporting the student to the Dean of Students Office and potentially a failing grade in the class or expulsion from the university.

Technology: Students should have reliable access to a computer or mobile device with high-speed internet in order to successfully complete this course. Supported browsers for the *UNM Learn* platform include Firefox, Safari, and Chrome. In addition, students should have a webcam and microphone/speakers (or headset) in order to fully participate in live Zoom meetings. Be sure to download the Zoom software and log in with your UNM NetID prior to the first class. You will be able to join scheduled meetings within *UNM Learn* via the "Zoom Meeting" link on the Course Menu. See the Zoom Participant Guide for more information.

If you experience any difficulties using *UNM Learn*, please call Technical Support at 505-277-0857 (24/7) or use the "Create a Support Ticket" link on the Course Menu. Do not contact the instructor about technical difficulties, unless it concerns an assignment deadline.

Note: Using a tablet as your primary device for this course is not recommended. UNM Learn has not been optimized for mobile computing, and the mobile app does not yet have full functionality.

Communication: The instructor will communicate to students 1) within the *UNM Learn* course website using the announcements tool, as well as 2) via UNM email. Students are expected to visit the *UNM Learn* course website regularly to stay up to date with course material and abreast of the information contained in announcements. Course announcements will be sent regularly from the instructor to apprise the class of weekly happenings and upcoming deadlines. UNM email will be used as needed for personal communication. To check or change your UNM preferred email account, go visit this two-factor authentication site. *Do note that if an urgent matter arises, you are welcome to contact me via phone or text.*

Assignment feedback will be given in the notes of each graded submission. Grades can be expected within 1-2 weeks of the submission deadline, depending on the nature of the assignment. As a courtesy to the instructor and your classmates, please observe proper *netiquette* at all times.

The instructor values student feedback; as such, it is strongly encouraged that students complete the end-of-course survey (available in the Course Evaluations section on the *UNM Learn* homepage and via automated email from coursefeedback@unm.edu).

Assignment Deadlines: All assignments should be submitted through *UNM Learn* by the specified deadline. If you have difficulty using a tool to complete work, use the "Create a Support Ticket" link in the Course Menu immediately and notify your instructor as well. Assignments received after their deadline will not be accepted or graded unless an extension is approved in advance. Students who are unable to complete an assignment on time for any reason should notify the instructor by email or phone/text as soon as possible - but ideally 24-48 hours prior to the deadline - with the request. Requests for extensions will be considered on a case-by-case basis. Deadlines for each assignment are listed in the Course Schedule below and on the *UNM Learn* calendar, and will also be highlighted in weekly class announcements and the live Zoom meetings.

Scheduled Maintenance and Unplanned Outages: UNM Learn has a weekly maintenance outage on Saturday mornings from 4:30 am - 5:30am, and may have other scheduled maintenance during the term. Detailed information about system availability can be found here. Announcements for periodic maintenance windows are posted in *UNM Learn* two weeks ahead of time to notify users of planned outages.

Due to the potential for personal emergencies, illness, technical issues, Internet outages, or other unexpected things that may prevent you from submitting assignments on time, do not wait until the last minute to submit your work. Leave yourself some time to get help if needed *before* the due date. Note that if there is an unplanned *UNM Learn* outage within three hours of a due date, the instructor will generally extend the due date by one day and will post a course announcement with specific details.

Tracking Course Activity: *UNM Learn* automatically records all students' activities including first and last access to the course, the modules you have accessed, the assignments you have submitted, etc. These data can be accessed by the instructor to evaluate class participation and to identify students having difficulty.

ADA Accessibility: Qualified students needing academic adjustments should contact Accessibility Services (arcsrvs@unm.edu, 505-277-3506) and inform the instructor as soon as possible to ensure your needs are met in a timely manner. Find out more information about the services available to you at the Accessibility Resource Center (ARC).

Campus Resources: UNM is committed to providing courses that are inclusive and accessible for all participants. As your instructor, it is my objective to facilitate an accessible classroom setting, in which students have full access and opportunity. If you are experiencing any physical or academic barriers, or concerns related to mental health, physical health and/or COVID-19, please consult with me via email/phone or during virtual office hours and I can direct you to the appropriate campus resources and services.

Title IX: In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education. This means that any report of gender discrimination (which includes sexual harassment, sexual misconduct and sexual violence) that is made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (OEO). Please note that UNM has three offices where you can confidentially discuss any incidents or concerns: *LoboRESPECT Advocacy Center*, *Women's Resource Center* and the *LGBTQ Resource Center*. The staff in these offices are specially trained advocates and do not share information with the OEO without a student's signed permission.

Anti-Racism Commitment: The Sustainability Studies Program is committed to anti-racist education and we stand united with our university community to create safe, respectful, and critically-engaged learning environments for all. We are committed to undoing systems of oppression and challenging racism in our work, our studies, and our lives.

Citizenship and/or Immigration Status: All students are welcome in this class regardless of citizenship, residency, or immigration status. The instructor will respect your privacy if you choose to disclose your status. UNM as an institution has made a core commitment to the success of all our students - including members of our undocumented community - and the Administration's welcome can be found here.

Land Acknowledgement: Founded in 1889, the University of New Mexico sits on the traditional homelands of the Pueblo of Sandia. The original peoples of New Mexico Pueblo, Navajo, and Apache since time immemorial, have deep connections to the land and have made significant contributions to the broader community statewide. We honor the land itself and those who remain stewards of this land throughout the generations, and also acknowledge our committed relationship to Indigenous peoples. We gratefully recognize our history.

Schedule:

Class	Date	Topic	Read & Discuss	Assignment Due
I. Introduction				
1	T 8/18	Course Overview & Introduction	-Syllabus	Read the syllabus
2	R 8/20	Climate Literacy: The Essential Principles	-US Global Change Research Program, 2009	
3	T 8/25	Climate Advocacy: What Can We Do?	-UN, 2019 -Pierre-Louis, 2017	
4	R 8/27	At the Precipice: NM's Changing Climate *Guest Speaker: Laura Paskus*		**Climate Advocacy**: Brainstorming
II. Earth's Climate & the Science of Climate Change				
5	T 9/1	Earth's Energy Balance & Radiative Forcings	-NASA, 2009 -CSSR, 2017 ch#2	
6	R 9/3	The Modern Climate System: Variability & Trends	-EarthLabs, 2017	
7	T 9/8	Understanding Climate Change: Paleoclimate Proxies	-NASA, 2005 -Bradley, 2015	
8	R 9/10	Understanding Climate Change: The State of the Climate	-Eos, 2020 -NOAA, 2020	**Climate Policy Proposal**: Brainstorming
9	T 9/15	Understanding Climate Change: Climate Impacts	-CSSR, 2017 *E.S.* -EPA, 2016	**Climate Advocacy**: Submit overview
10	R 9/17	Global Carbon Cycle	-NASA, 2011	**Lab Exercise #1**
11	T 9/22	Climate Models & Projections	-CSSR, 2017 ch#4 -IPCC, 2014 *SYR*	
III. The Economics of Sustainability & the Environment				
12	R 9/24	Ethics & Economics	-IPCC, 2014 *WG3*, ch#3 -Harris, 2017	
13	T 9/29	Economic Development & The Tragedy of the Commons	-Hardin, 1968 -Krugman, 2010	
14	R 10/1	The Efficiency Standard	-Principles of Economics, 2016 ch#18.1	**Climate Policy Proposal**: Draft Outline
15	T 10/6	The Safety Standard	-Goodstein, 2011 ch#5	
16	R 10/8	The Sustainability Standard	-Goodstein, 2011 ch#6, 7	**Climate Advocacy**: 5 hours completed

**This reading list is subject to modifications at the discretion of the instructor.*

Schedule:

Class	Date	Topic	Read & Discuss	Assignment Due
17	T 10/13	Environmental Valuation & Economic Impact of Climate Change	-Loomis, 2005 -Meyer, 2017	**Lab Exercise #2**
IV. Policy Solutions for Climate Change				
18	R 10/15	Climate Policy Discussion *Guest Speaker: Kelsey Rader, CABQ*	-Harris, 2017 -Project Drawdown	
19	T 10/20	Global Environmental Governance + International Climate Agreements	-Rich, 2018 -IPCC, 2014 *WG3*, ch#13 -Website: Kyoto Protocol -Website: Paris Agreement	
20	R 10/22	Climate Communication & Strategic Framing Workshop with *NNOCCI*		
21	T 10/27	Climate Change Mitigation: Emissions Trends & Transformation Pathways	-IPCC, 2014 *WG3*, ch#5 -CSSR, 2017 ch#14	**Climate Policy Proposal**: Final Outline
22	R 10/29	Climate Change Regulation: Carbon Markets, Taxes, & Direct Regulation	-Principles of Economics, 2016 ch#18.2 -World Bank, 2020	
X	T 11/3	***UNIVERSITY HOLIDAY – no class***		**Election Day**
23	R 11/5	US Climate Policy	-Plumer, 2019 -Jotzo, 2018 -Pew Research Center, 2018	
24	T 11/10	Business, Technology & Behavioral Strategies for Climate Change Mitigation	-IPCC, 2014 *WG3*, SPM -Griffin, 2017	
25	R 11/12	Climate Change Adaptation & Planning	-IPCC, 2014 *WG2*, SPM -USGCRP, 2018	
26	T 11/17	Climate Justice & Green Growth in the Developing World	-IPCC, 2014 *WG3*, ch#4 -Hansen, 2017	**Climate Advocacy**: Project due
27	R 11/19	Communicating Climate Change; Future of Climate Change Policy	-Leiserowitz, 2020 -Website: YPCCC	
28	T 11/24	Climate Stabilization Strategy Game	Website: Stabilization Wedges	**Lab Exercise #3**
V. Student Presentations & Course Wrap-Up				
X	R 11/26	***UNIVERSITY HOLIDAY – no class***		
29	T 12/1	Climate Policy Proposal Presentations		**Climate Policy Proposal**: Final Report
30	R 12/3	Climate Policy Proposal Presentations		

**This reading list is subject to modifications at the discretion of the instructor.*