



GEO 3334 Managing for a Changing Climate

UF-Online

Department of Geography

College of Liberal Arts & Sciences, University of Florida

COURSE SYLLABUS

Instructor:	Dr. Esther Mullens	Term:	Fall 2021
Office:	TUR 3138	Class Meeting Days:	Asynchronous
Phone:	use email	Class Meeting Hours:	Asynchronous
Email:	emullens@ufl.edu	Class Location:	Online
Office Hours:	Tues and Thurs 1-2.30pm* or by appointment	Course Credits:	3 hours

*Online using Zoom.

I. Course Overview

In this course, students will gain an international perspective on the physical mechanisms and processes contributing to climate variability and change. We consider the problems of climate change holistically, and across multiple disciplines, ranging from the basic climate science, to societal and ecological impacts, vulnerability, and adaptation. A key component of this course is to apply the knowledge gained to represent a country on the international climate policy stage. Students are therefore equipped to be climate literate, thereby placing them in a position to be able to inform society of the climate change issue, incorporate climate data into their future careers where relevant, contribute, and lead efforts to adapt and mitigate the impacts of climate change in their communities and professional sectors. This course is intentionally practical, having been developed by Climate Science Organizations and with contributors from National leaders in the fields of climate science, and practitioners that apply climate science. Course material introduces climate science from its most basic origins, evaluating how we know the climate is changing, and the indicators thereof. We discuss how climate models are developed, including their basic structure, benefits, and limitations. We examine spatially the impacts of climate change across ecosystems, culture, and the built environment. Throughout, students are challenged to apply these concepts in exercises that place them in the role of decision-makers who must incorporate climate change into their planning processes.

This course is a fully online course, and is asynchronous, but may require group coordination for certain activities and project work. More information will be provided during the semester.

II. **Pre-requisites:** Sophomore standing or higher. Writing class preferred.

III. Student Learning Outcomes

At the end of this course, students will be expected to achieve the following learning outcomes in content, communication, and critical thinking:

- **Content:** *Students demonstrate competence in the terminology, concepts, theories, and methodologies used within the subject area.* Students will evaluate and describe how we know Earth's climate is changing, and the natural and anthropogenic contributions to historical and present changes, including the relevant theories, terminology, and tools associated with climate science. Students will also enhance their understanding of global geographic variability of climate change, and climate impacts, including societal, ecological, and cultural impacts. Students will also develop competency in interpreting climate model projections, using simple climate model tools to test hypotheses, interpret graphical data, use observations to examine trends, and discern how climate model data can be effectively used

despite uncertainty. Achievement of this learning outcome will be assessed through experiential learning activities – include multiple role-playing exercises, discussions from required readings and videos, individual written summaries & reflections and, quizzes. The papers and project holistically address course content through literature review, and evidence-based examination of their selected country.

- **Communication:** *Students clearly and effectively communicate knowledge, ideas, and reasoning in written or oral forms appropriate to the subject area.* Students will work on assignments that challenge them to write and communicate clearly using various styles. For example, the papers require students to examine in depth their selected country, and synthesize course content and their own literature reviews into a comprehensive and narrative-based examination of the science, impacts, and vulnerabilities of their region to climate change. Peer discussions, and individual short-answer & self-reflection exercises help students to develop clear and accurate lines of reasoning, and evaluate the credibility of their arguments. Project work involves introducing their country group orally to their peers, and collectively develop a climate mitigation and adaptation policy between them. Each student will also be required to make an individual ‘argumentative’ speech advocating for particular climate policies. Students will engage in a debate, that may place them in the position of advocating for policies that are counter to their own views. This exercise teaches them to balance multiple competing elements of high priority, and engage in productive negotiation, thus helping them walk in the shoes of leaders, managers and decision-makers that are tasked with making difficult choices. Clear rubrics are provided in Canvas for each assignment type.
- **Critical Thinking:** *Students carefully and logically analyze information from multiple perspectives and develop reasoned solutions to problems within the subject area.* Students will analyze data and information and will be asked to reason with course content, current and recent literature, and data/models in activities, papers, and projects to gain competence in interpreting climate change information, and to develop national and international policy solutions to reduce the negative impacts of climate change on society. Students will be required to apply what they are learning to identify and describe the science of climate change - inclusive of a critical analysis of what we know and do not know. Students will evaluate international policy goals, generate their planned solutions whilst acting in the role of their selected country government, and debate those solutions with their peers. Students gain understanding of how to communicate this information in multiple formats (oral, written, graphical) and styles (scientific presentation and persuasive/inspirational speech). Achievement of this learning outcome will be assessed through the paper and project activities, and the required reading summaries and discussions.

IV. Materials and Supplies: Laptop Computer

Students should be in possession of a personal computer, and have access to a webcam, UF Google suite, TEAMS, and Zoom software for any face-to-face communication. Any required software (such as Microsoft Excel, Word, Power Point) will be available on students’ laptops through UF Apps at <https://info.apps.ufl.edu>.

V. Required Texts and Useful Online Resources

There is no required text for this class. The videos and readings supplied through Canvas are sufficient in addressing the course aims. Examples of readings include select chapters from the U.S. National Climate Assessment, and Intergovernmental Panel on Climate Change, as well as reports from credible climate science organizations. The majority of video content was professionally developed, and employs multiple experts from across the United States, as well as use of visual graphics. Written transcripts are available for each video to assist student learning.

VI. Course Format, Activities, and Basis for Evaluation

This course is asynchronous online. Video lectures, readings, and discussions will be regular weekly activities. A typical week has 2-6 videos (5-8 minutes in length each), and 1-3 required readings, with an average page length of 5-10 per document. Supplementary resources are also available to enhance knowledge. All resources will be available on Canvas at the start of each week, and will be clearly laid out to the students through a weekly email notification that details the week’s activities, in addition to the schedule of activities provided in the syllabus. The videos and readings are available for students to access at any time. Transcripts for the video content are also provided for students to download and use/annotate. Students will be responsible for engaging in weekly activities and assignments that apply the knowledge gained from the videos and readings. These activities typically will take 1-3 hours per week, and will include roleplaying, Q&A, simple data or map interpretation, and short-answer summaries. Students will also engage in discussion topics throughout the semester, using Canvas discussion

boards that the instructor will create and facilitate. Paper and project work includes three essay papers through the course of the semester, and three project activities. **There are no exams in this course.**

Evaluation and Grading

- **Weekly Activities (20%):** Involves engagement in the learning exercises for each week, and fulfillment of those activities to good standard (rubric is provided on Canvas). Most activities include brief written evaluations/reflections, which will be graded. All working should be shown. Some exercises may include teamwork and some (~one per month) will require synchronous participation.
- **Online discussions (5%):** This involves regular contributions to discussion boards throughout the semester, typically based on a 1-2-question posed, and 1-2 responses to other’s posts per week. Rubrics and further information will be provided at the start of the semester.
- **Lecture summaries and quizzes (20%):** 10% of the final grade will consist of weekly short summaries (target 300-500 words) of required readings/videos. Students will be posed a series of questions they can respond to, with the option to select particular questions. A rubric is provided to the students on canvas. A further 10% of the grade will be based on the 8 quizzes throughout the semester, that assess student’s basic understanding of the lecture and reading content.
- **Papers (25%):** There are three papers spread throughout this course. The papers relate to the semester project that places the student in the role of a science/policy leader of a nation of their choice that must create effective climate policy to adapt to/mitigate climate change, whilst also considering their country’s challenges and limitations to effective engagement in such policies. Papers should be submitted with double spacing and 12pt font. The paper themes are as follows: Paper 1: Physical and social geography (2-3 pages, 5%); Paper 2: Climate change projections & economic impacts (5-7 pages, 10%); Paper 3: Climate impacts on society and ecosystems (5-7 pages, 10%). The paper and written assignments rubric will apply, and is provided to students on canvas.
- **Semester Project: UN Framework Convention on Climate Change (UNFCCC) (20%):** There are two project activities spread throughout the first 2/3 of the course that build upon one another. Within the first two weeks of class, students will be provided a list of countries to choose from and must select one. Students will present basic geographical information about their countries and regions (project 1 – recorded oral presentation with slides, 5%). Following this, roughly at the mid-point of the semester, students will craft a set of climate policy proposals as an update to their nation’s Paris agreement commitments, which they will summarize in a factsheet as well as a persuasive short speech (written and recorded oral). Each rubric is provided to the students on canvas.
- **Final Project (10%):** The final project will be conducted over the months of November and December, and is due on Friday Dec 17 at 5pm. Students will pick a region of interest, perhaps their hometown, favorite area etc., and conduct a short climate assessment, including vulnerabilities, future climate hazards, and adaptation/mitigation options. This cumulates in a report (5-7 pages) and associated infographic that highlights your findings.

Assignments and Exams	Percent of Final Grade
Weekly activities (one ‘pass’ provided)	20%
Online Quizzes (lowest grade dropped)	10%
Online Discussions (two ‘passes’ provided)	5%
Written summaries/short answer (lowest 2 grades dropped)	10%
Papers	25%
UNFCCC Project	20%
Final Project	10%
Total	100%

Grading Scale (%)	
92.0 – 100	A
89.5 – 91.99	A-
86.5 – 89.49	B+

Grading Scale (%)	
82.5 – 86.49	B
79.5 – 82.49	B-
76.5 – 79.49	C+
72.5 – 76.49	C
69.5 – 72.49	C-
66.5 – 69.49	D+
62.5 – 66.49	D
59.5 – 62.49	D-
< 59.5	E

VII. **Important Dates to Remember:**

<https://catalog.ufl.edu/UGRD/dates-deadlines/2021-2022/#fall21text>

Drop/Add Ends:

Labor Day

Homecoming

Veterans Day

Thanksgiving

Reading Days

Fall 2021 Grades Visible on <https://one.ufl.edu/dashboard/>

Fri, Aug 27

Mon, Sep 6

Fri, Oct 8

Thurs Nov 11

Nov 24-26

Thurs-Fri, Dec 9-10

After Dec 22

VIII. **Weekly Topic Schedule, Assignments, and Exams (Schedule is provisional and subject to change)**

Week beginning	Online Course Material	Activity	Select Assignments*
Aug 23	Course Introduction; Unit 0	Ice breaker Course overview	Code of conduct Quiz Course/syllabus Quiz Students select country
Aug 30	1.1 Energy in the Climate System 1.2 Climate and Carbon	Basics of climate	
Sep 6	1.3 Natural Climate Variability	Modes of variability & impacts on society	Turn in Paper 1
Sep 13	2.1 Modeling our Global Climate 2.2 Modeling our Regional Climate	Experiments with a basic climate model	Quiz 3 (module 1)
Sep 20	3.1 Using Climate Projections 3.2 Observing our climate	Using climate data for decisions roleplay	Quiz 4 (module 2) Turn in Project 1
Sep 27	3.3 Climate Change Assessments	climate assessments, economics and policy.	
Oct 4	4.1 Introduction to Policy and Economics	Carbon Wedge Game.	Quiz 5 (module 3) Turn in Paper 2
Oct 11	4.2 Vulnerability and Culture (I)	Prepare Project 2 material	
Oct 18	4.2 Vulnerability and Culture (II)	“Decisions for the decade” game/roleplay	Turn in Project 2
Oct 25	5.1 Impacts to Climate Systems	Planning for climate change in Florida.	Quiz 6 (module 4)
Nov 1	5.2 Impacts to Coast and Marine Systems 5.3 Impacts to Ecosystems	Shocks and Stressors	Turn in Paper 3
Nov 8	5.4 Impacts to Human Health and Security	Human health and climate ‘escape room’	
Nov 15	6.1 Climate communication	Effective climate change communication.	Quiz 7 (module 5)

Nov 22	6.2 Adaptation Strategies	NO ACTIVITY	
Nov 29	Catch up & Preparation for final project	Creating climate assessments	Quiz 8 (module 6)
Dec 6	Project Preparation	Project preparation	
Dec 13	Finals Week		Turn in Final Project

*Does not include due dates for weekly assignments such as reading summaries (13 in total) and graded activities.

IX. COVID19 policies

This section may be updated based on how COVID evolves over the Fall semester.

If you are experiencing COVID-19 symptoms ([Click here for guidance from the CDC on symptoms of coronavirus \(Links to an external site.\)](#)), please use the UF Health screening system and follow the instructions on whether you are able to attend class. [Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms \(Links to an external site.\)](#).

- Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. [Find more information in the university attendance policies \(Links to an external site.\)](#).

X. Course Policies: Attendance, Make-Ups, and Grades

Attendance: Students are required to participate in this course on a regular basis. Time spent on Canvas will be tracked. Absences can be excused with proper documentation according to university policy. Requirements for make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

Should you need modifications or adjustments to your course requirements because of documented pregnancy, childbirth, or childcare issues, please contact me as soon as possible to discuss. Generally, modifications will be made where necessary.

Late Work: All assignments submitted after their respective deadlines will be assessed a penalty: ten percentage points for each day (24-hr period) that the assignment is late. Assignments will not be accepted if overdue by more than seven days. *It is always worth emailing me if you foresee a problem as I can usually find a way to accommodate for any legitimate issue. I cannot do so if I only hear after the fact (with certain exceptions).*

Examination Policies and Reading Days: Course policies are consistent with University policies on during-term exams, final exams, reading days, and make-up exams. This class does not have any exams. More details can be found at <https://catalog.ufl.edu/UGRD/academic-regulations/examination-policies-reading-days/>.

Grade Dissemination: You can access your scores at any time using the Grade function in Canvas. The instructor will post grades within 14-days of the due date of each assignment.

Grading Policies for Assigning Grade Points: Information on current UF grading policies for assigning grade points may be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

NOTE: There are NO opportunities for extra credit. I do drop select assignments through the course of semester. **I DO NOT EVER adjust a grade or offer extra assignments at the end of the semester to make up grade points, and I will disregard any requests on this topic,** with the exception being if a calculation error was made or in conditions of serious documented extenuating circumstances. I may adjust grades (curve) based on the average class grade distribution, and they will curve up if they curve at all. You should work to achieve your desired grade throughout the semester and contact me with any concerns sooner rather than later.

Grades of "Incomplete": The current university policy concerning incomplete grades will be followed in this course. An incomplete grade may be assigned at the discretion of the instructor as an interim grade for a course in which you have completed a major portion of the course with a passing grade, been unable to complete course requirements before the end of the term because of extenuating circumstances and obtained agreement from the instructor and arranged for resolution of the incomplete grade. Instructors are not required to assign incomplete grades.

XI. Course Policies: Technology and Media

Email: Each of you has a UF email address. It is vital that you maintain an active UF email account and that you **check it often**. Your instructor will post class notices at the beginning of each week. This tentative syllabus is **subject to change**, and any changes will be transmitted to you via your UF email account and Canvas (see below). Students should email the instructor if they have questions about any of the lectures, readings, assignments, or exams. You should expect a response within about 24 hours during weekdays. On holidays or weekends, expect a response on the next business day. The instructor will reasonably expect similar time frames for responses to emails sent to students.

Canvas: Course materials such as lectures, readings, the syllabus, and assignment instructions will be available through Canvas (<https://elearning.ufl.edu>). You will also find all due dates and grades on Canvas. Students must activate their UF GatorLink account in order to use Canvas. If you need help learning how to perform various tasks related to this course or other courses that utilize Canvas, please consult the above webpage. You may also contact the UF Computing Help Desk at (352) 392-HELP(4357) or helpdesk@ufl.edu.

Online Course Evaluation: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at gatorevals.aa.ufl.edu/. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at gatorevals.aa.ufl.edu/public-results/.

XII. Course Policies: Recordings, Notes, and the Intellectual Diversity Act

- A Student may record a **class lecture** for three specified purposes as outlined in House Bill 233/Section 1004.097, Florida Statutes:
 1. For the student's own personal educational use;
 2. In connection with a complaint to the University where the recording is made
 3. As evidence in, or in preparation for, a criminal or civil proceeding.
- Students may audio or video record a class lecture for a class in which the student is enrolled. Students do not need advance permission, or to provide notice, to record.
- A class lecture is defined as an educational presentation delivered by faculty (instructor of record) or guest lecturer, as part of a University of Florida course, intended to inform or teach enrolled students about a particular subject. Lecture is inclusive of faculty-led discussions that are integrated into the educational presentation.
- A class lecture **does not** include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.
- **A recording of a class lecture may not be published without the consent of the instructor.** Publish is defined as sharing, transmitting, circulating, distributing, or providing access to a Recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. A recording, or transcript of the recording, is considered to be published if it is posted on or uploaded to, in whole or part, any media platform, including but not limited to social media, book, magazine, newspaper or leaflet. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

You are permitted to retain class notes, readings, and course content for your own use.

XIII. Course Policies: Student Expectations

Disabilities Statement:

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Academic Honesty & Conduct Policy: UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.” On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor code (sccr.dso.ufl.edu/process/student-conduct-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor in this class.

Title IX: For any concerns regarding gender-based discrimination, sexual harassment, sexual assault, dating/domestic violence, or stalking, there are resources available. To learn more or to report an incident, go to: <https://titleix.ufl.edu>. Also, please be advised that your instructor is required to report instances of sexual harassment, sexual assault, or discrimination.

We are an inclusive classroom: University is an opportunity to learn from one another, no matter our background, ethnicity, nationality, disability status, sexuality, gender and gender identity, religion, and socioeconomic background. From personal experience, being the first female in my family to obtain a university degree, and the first at all to attain a PhD (internationally), I am particularly cognizant that many of you may feel out of place at such a large and prestigious place as UF. This can be amplified when you represent a minority. Make no mistake, you are here because you deserve to be, and you have the potential to do great things. In this classroom, either in person, or online, my goal is to provide a learning environment that is inclusive to all. If you are struggling or experiencing challenges to your learning, please do not hesitate to discuss with me.

The pandemic sucks: I am very aware of how difficult a time this is for all of us. Please do not be hesitant to discuss with me any issues or concerns you are dealing with as a result of this unprecedented and challenging global situation. While I can't fix the pandemic, I hope we can create a positive learning experience and look after one another as well.

XIV. Campus Resources for Students:

Academic Resources

E-learning technical support: Contact the [UF Computing Help Desk](http://ufcomputing.com) at 352-392-4357 or via email at helpdesk@ufl.edu.

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services at career.ufl.edu/.

Library Support: <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>

Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>

Student Complaints On-Campus: sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/

On-Line Students Complaints: distance.ufl.edu/student-complaint-process/

Health and Wellness Resources

U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit umatter.ufl.edu/ to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit <https://counseling.ufl.edu/> or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit <https://shcc.ufl.edu/>.

University Police Department: Visit police.ufl.edu/ or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; ufhealth.org/emergency-room-trauma-center.

Put this in future syllabi: <https://registrar.ufl.edu/complaint.html>