

GEO 3334/6938... Managing for a Changing Climate

Department of Geography
College of Liberal Arts & Sciences, University of Florida

COURSE SYLLABUS (as of Dec 2020)

Instructor: Dr. Esther Mullens Term: Spring 2021 Office: **TUR 3138** Class Meeting Days: Wednesday Phone: use email Class Meeting Hours: Periods 4&5 Email: emullens@ufl.edu Class Location: **TUR 3018** Thurs 1-2.30pm & Tues, 10-11.30 am, or by Office Hours: Course Credits: 3 hours appointment

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, cumulating in a climate negotiation mimicking that of the United Nations Conference of Parties (COPs). 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 group and individual exercises that place them in the role of decision-makers who must incorporate climate change into their planning processes.

This course is hybrid format, with lecture content, readings, and online quizzes. Class time will apply this content through group activities, roleplaying, discussions, and group projects.

II. Pre-requisites: Sophomore standing or higher.

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, group 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 multiple individual and team 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. Inclass 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 students working in country 'groups' of allied nations, where they must introduce their country group orally to their peers, and collectively develop a climate mitigation and adaptation policy between them, that is also attractive to the nations outside their team. Each student will also be required to make an individual 'argumentative' speech advocating for particular climate policies. Students will engage in two debates (one mid-term, and the other during finals week, in place of an exam), often placing them in the position of advocating for policies that are counter to their own views. This exercise teaches them to balance multiple completing 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 form of written, oral, and group assignment.
- 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 the class 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 known 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) In addition, students must sometimes argue in favor of ideas that are contrary to their own positions. Achievement of this learning outcome will be assessed through the paper and project activities, the in-class activities, and the required reading summaries and discussions.

IV. Materials and Supplies: Laptop Computer

The live portion of this course will be held in TUR 3018, which is a classroom with no computer terminals. The arrangement of this classroom is appropriate for our discussion and group activities. Students who attend the class live should expect to bring a personal laptop every week, and those who are attending synchronously online should be in possession of a computer with adequate internet access, and a webcam. 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 presented in hybrid format. 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 them at any time. Transcripts for the video content are also provided for students to download and use/annotate. In addition to the online material, will meet live and/or synchronously online once per week for an interactive class

encompassing two periods. The class time typically follows two themes. The first is to discuss the material covered in the videos and readings, for which students have had advance preparation time through a weekly short-answer/reflection exercise, and the second is to apply this information in real-world scenarios. These scenarios include experiential activities such as roleplaying, group work, formal speeches and presentations, and games. Assignments such as the short-answer homework and quiz homework follow a regular pattern, shown in the schedule below. The project encompasses four related activities, culminating in a final international climate change policy debate at the end of the semester. Students write three essay papers over the course of the semester, and the theme of these papers ties in to both the course material and the project. In class activities are graded for participation (66.7%) and for content (33.3%). There are no exams in this course.

Evaluation and Grading

Note the different expectations of graduate students which are highlighted below. Please ask if you are unsure.

- Attendance and participation (15%): Class attendance is mandatory in order to facilitate the best learning environment for all students, and since this course is highly collaborative. Attendance will count for 5% of the final grade and encompasses both a student's physical presence in class (or, for online sections, their attendance via Zoom. Students who registered for the live class are expected to attend in person). Participation (10%) involves their engagement in class activities and discussions, and fulfillment of those activities to good standard (rubric is provided on Canvas). Most class activities include brief written evaluations/reflections, which will be graded. Students may be excused from absences with appropriate documentation according to the university policy (more information provided below). Students that have an excused absence may still be responsible for completing the in-class activity in their own time. Graduate students will be required to lead a discussion on course material in the latter half of the semester. The instructor will provide more information within the first month of class.
- Material homework summaries and quizzes (25%): 15% 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. Students must also provide a list of 2-3 questions they have based on the content of the reading/video to present in class discussion. 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. **Graduate students** will be expected to draw substantially from scholarly works (e.g., peer-reviewed articles, government reports) in their writing, and will be expected to go into more depth in each paper, thus with expected page limits of the following: Paper 1 (3 pages), Paper 2 (6-8 pages), Paper 3 (6-8 pages).
- UN Framework Convention on Climate Change (UNFCCC) policy project (35%): There are four project activities spread throughout 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. Based on their selections, they will be grouped into teams of 2-4 like-countries (size dependent on enrollment), based on region, geography, politics. Students will work in teams and individually to present basic geographical information about their countries and regions (project 1 oral presentation with slides, 5%). Following this, roughly at the mid-point of the semester, students will work in their groups to craft a set of climate policy proposals which they will summarize in a team factsheet, and then debate with one another ultimately voting to carry forward 3 policy proposals (project 2, factsheet, debate, 10%). Project 3 occurs in the last two weeks of the semester, and students must individually prepare and deliver a persuasive speech aimed at motivating others to adopt their point of view as regards climate change policy (project 3, oral speech

without slides, 5%). Finally, project 4 is a two-hour debate, scheduled during finals week (a University requirement) where students must act on behalf of their nations to reduce the three remaining proposals down to one that best attempts to prevent dangerous temperature rise by the end of the 21st century (project 4, debate, oral, written, 15%). Project 4 also includes brief written assignments, where students must present justification for the 3-5 policy resolutions their nation supports, including any amendments (max 2 pages). Following the debate, students write a reflection of the project and how it compares to an actual UNFCCC COP, and whether the outcomes are likely to present dangerous interference in the climate system (max 2 pages). Students are assessed based on additional rubrics that vary depending on the project and those rubrics are clearly stated in guidelines. These include oral presentation, group work, and factsheet/design. Each rubric is provided to the students on canvas.

Assignments and Exams	Percent of Final Grade
Attendance/in-class activities (one 'pass'	15%
provided)	
Online Quizzes (lowest grade dropped)	10%
Written summaries/short answer (lowest	15%
2 grades dropped)	
Papers	25%
UNFCCC Project	35%
Total	100%

Grading Scale (%)				
92.0 – 100	Α			
89.5 – 91.99	A-			
86.5 - 89.49	B+			
82.5 - 86.49	В			
79.5 – 82.49	B-			
76.5 – 79.49	C+			
72.5 – 76.49	С			
69.5 – 72.49	C-			
66.5 - 69.49	D+			
62.5 - 66.49	D			
59.5 – 62.49	D-			
< 59.5	Ε			

VII. Important Dates to Remember:

Drop/Add Ends: Fri Jan 15th 2021 S/U grade option (if applicable – check with instructor). Fri Jan 29th 2021 MLK Day Mon, Jan 18st 2021

Reading Days Thurs-Fri, Apr 22-23th 2021

Final Debate Thursday Apr 29 12.30-2.30pm

Spring 2021 Grades Visible on https://one.uf.edu/dashboard/ Wed, May 5th 2021

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

Week beginning	Online Course Material	In-Class material & activity	Select Assignments* (Due)
Jan 11	Course Introduction; Unit 0	(online) Ice breaker	Code of conduct Quiz
		Course overview	Course/syllabus Quiz (Jan 20)

Jan 18	1.1 Energy in the Climate System 1.2 Climate and Carbon	"Jeopardy" game: basics of climate	Students select country and groups formed (Jan 20)
	1.2 Chilate and Carbon	Discussion unit 1 so far	groups formed (suit 20)
Jan 25	1.3 Natural Climate Variability	Modes of variability &	
	1.5 Natural Chimate Variability	impacts on society	
	2.1 Modeling our Global Climate	Experiments with a basic	Quiz 3 (module 1) due Feb 3
Feb 1		climate model &	
	2.2 Modeling our Regional Climate 3.1 Using Climate Projections	Discussion	Paper 1 due Feb 5
		Unit 2 discussion	
Feb 8		Using climate data for	Quiz 4 (module 2) due Feb 17
1656	3.2 Observing our climate	decisions roleplay	()))
		Group presentations	
Feb 15	3.3 Climate Change Assessments	(Project 1)	Turn in Project 1 slides
		Discussion on climate	
Fab 22	4.4 Introduction to Delian and Fearnamies	assessments, economics	Ovin F (mandula 2) dua Man 2
Feb 22	4.1 Introduction to Policy and Economics	and policy. Carbon Wedge	Quiz 5 (module 3) due Mar 3
		Game.	
Mar 1	4.2.V. da anabilita canal Cultura (I)	Teams prepare for debate	
IVIdI 1	4.2 Vulnerability and Culture (I)	(own time, no class)	
Mar 8	4.2 Vulnerability and Culture (II)	Policy debate (Project 2)	Team factsheets due night before debate
		Discussion on	
NA 45	5.1 Impacts to Climate Systems	vulnerability. "Decisions	Quiz 6 (module 4) due Mar 24
Mar 15		for the decade"	Paper 2 due Mar 19
		game/roleplay	
	5.2 Impacts to Coast and Marine Systems 5.3 Impacts to Ecosystems	Discussion on climate	
Mar 22		impacts.	
IVIdi 22		planning for climate	
		change in Florida.	
		Discussion unit 5	
Mar 29	5.4 Impacts to Human Health and Security	ecosystems	
IVIAI 23		Human health and climate	
		activity	
	6.1 Climate communication	Effective climate change	
Apr 5		communication.	Quiz 7 (module 5) due Apr 7
		Discussion & roleplay	
	6.2 Adaptation Strategies	Discussion on Adaptation.	
Apr 12		Overview of the UN	Paper 3 due Apr 16
		Conference of Parties	
		(Guest speaker).	
Apr 19	Preparation for speeches and final debate Final speeches (Project 3)^		Quiz 8 (module 6) due Apr 23
Apr 29	Finals Week (Project 4 Final Debate & associated written material)		Debate written material due 48 hours following debate**

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

IX. COVID19 policies

For the live section(s): In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions:

[^]If M-W class time. If not, then speeches will occur the preceding week in place of the listed activity.

^{**}By Saturday May 1 at 5pm.

- You are required to wear approved face coverings at all times during class and within buildings. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
- This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between
 individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do
 not move desks or stations.
- Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end
 of the class.
- Follow your instructor's guidance on how to enter and exit the classroom. Practice physical distancing to the extent
 possible when entering and exiting the classroom.
- o **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.).
- Ocourse 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.).

For the synchronous online section(s):

Our class sessions may be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate verbally are agreeing to have their voices recorded.

If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared.

As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

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

Attendance: Students are required to attend class on a regular basis. Absences can be excused with proper documentation according to university policy. Requirements for class attendance and 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, however, we conduct four key activities within our overarching international policy project on particular weeks. Students must notify the instructor as soon as possible in case of absence during a class project, and provide documentation as to the reason for the absence. If deemed an excused absence, the student will be permitted to undertake a revised activity for project credit. 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. <u>I DO NOT EVER</u> 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/.

Recordings and Notes: It is not permitted to sell notes, recordings, or videos from this class. Nor are students permitted to disseminate recordings, videos, or post copies of assignments or exams on the internet without written permission of the instructor. You are permitted to retain class notes, readings, and course content for your own use.

XII. 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/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, got 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, 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.

XIII. Campus Resources for Students:

Academic Resources

E-learning technical support: Contact the UF Computing Help Desk 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 <u>umatter@ufl.edu</u>, 352-392-1575, or visit <u>umatter.ufl.edu/</u> 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 <u>police.ufl.edu/</u> 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; <u>ufhealth.org/emergency-room-trauma-center</u>.