Understanding Climate Change (GEOG 204)
10:30-11:20 MWF
101 Burchfiel Geography Building (BGB)

Instructor: Melissa Hinten mhinten@utk.edu
Office: 207 BGB
Office Hours: TBD
Office Phone #: (865) 224-6530

Graduate Teaching Assistant: TBD
Office:
Office Hours:
Email:

Course Description:

This course provides an introduction to climate change science. We will start of the course by gaining a foundational understanding of the Earth's energy budget and climate systems. Then we will learn about both natural and anthropogenic climate change through interpreting and analyzing scientific evidence. Finally, we will explore the impacts of climate change, and then end the course by evaluating options for climate mitigation and adaption.

This class is designed, through the assignments and class discussions, to encourage an active and collaborative learning environment. The class is designed in this manner because part of the learning process involves sharing knowledge, skills, and insights from instructor to student, student to student, and student to instructor. Please attend every class and be prepared to participate.

This course fulfills a General Education Requirement for a Natural Science Non-Lab course.

Learning outcomes carried out through readings, class discussions, assignments, quizzes, and research project:

1. Identify and analyze evidence of natural and anthropogenic climate change.

2. Identify global climate systems and atmospheric and oceanic circulation

3. Interpret impacts of climate change on earth's systems

4. Evaluate options for climate mitigation and adaptation.

Learning Objectives for Geography Majors:

- Students will be able to analyze and interpret the impact of physical processes on the landscape and the relationship between humans and environmental change
- Students will be able to analyze and interpret the spatial aspects of human activities on the landscape and the role of - place and space in social life.

Canvas: All communication will be conducted via UTK email; announcements and course materials will be posted in Canvas. Please see the course schedule in Canvas for assignments and readings. Most assignments will be posted and turned in Canvas. **Please check Canvas often!**

Texts to accompany the lecture and discussions:
Dessler, Andrew. (2016) *Understanding Modern Climate Change*. 2nd Edition. Cambridge University Press.

Grading:

Exams	60%
Assignments, participation and attendance	20%
Research Project	20%

Grade scale: A (100-93%), A- (92-90%), B+ (89-87%), B (86-83%), B- (82-80%), C+ (79-77%), C (76-73%) C-(72-70%), D+ (69-67%), D (66-63%), D- (62-60%) and F (< 60%)

Exams: There will be three exams throughout the semester (see course schedule), which will consist of multiple choice and short answer questions and one take-home final exam. Make-up exams will only be given **with prior notice** and at the discretion of the instructor, or with valid university excuses.

Research Project: Students will work in groups of two or three to develop and carry out a climate change mitigation project. The final products of your research project will be a group report, and presentation to the class during the last week of classes. Instructions and a rubric will be posted on Canvas and the assignment will be discussed in detail and worked on in class throughout the semester (see course schedule).

Assignments: Some assignments will be completed out of class and some will be completed in class, for in-class assignments you will only receive credit for the assignment if you are present in class.

Policy on late assignments:
An assignment up to two days late will receive a 10% reduction per day, and after day two no late submissions will be accepted.

Attendance: I believe that attending class consistently is important to your success in my course and at college, and I take it very seriously. Every student is granted two-excused absences – you do not need to let me know when or why you are missing those two classes. After the two-excused absences your grade will be deducted. The only exception to the two-class excused rule is for university absences with proper documentation.

No Extra Credit will be offered due to Geography Department policy.

Campus Syllabus and Academic Misconduct: Within the Campus Syllabus you will find information regarding Academic Integrity, University Civility and Disability Statement. *Please see the Campus Syllabus uploaded to Canvas.*

***Tentative* Course Schedule:** Below is a list of topics and chapters we will cover this semester, but it may change based on the pace of the course and if other unexpected events arise throughout the semester. Again, please check Canvas and your email often for announcements

	Day	Date	Topics
Week 1	W	8.18	Course Introduction & An introduction to the climate problem (Ch1)
	F	8.20	An introduction to the climate problem
Week 2	M	8.23	Is climate changing? (Ch 2)
	W	8.25	Is climate changing?
	F	8.27	Climate data activity
Week 3	M	8.30	Climate data activity
	W	9.1	Radiation and energy balance (Ch 3)
	F	9.3	Radiation and energy balance
Week 4	M	9.6	**Labor Day – No Class**
	W	9.8	A simple climate model (Ch 4)
	F	9.10	A simple climate model
Week 5	M	9.13	The carbon cycle (Ch 5)
	W	9.15	The carbon cycle
	F	9.17	Wrap-up/Exam Review
Week 6	M	9.20	**Exam 1**
	W	9.22	Forcing, feedbacks, and climate sensitivity (Ch 6)
	F	9.24	Forcing, feedbacks, and climate sensitivity

Week 7	M	9.27	Why is the climate changing? (Ch 7)
	W	9.29	Why is the climate changing?
	F	10.1	**Fall Break – No Class**
Week 8	M	10.4	The future of our climate (Ch 8)
	W	10.6	The future of our climate
	F	10.8	The future of our climate
Week 9	M	10.11	Impacts (Ch 9)
	W	10.13	Impacts
	F	10.15	Wrap-up/Exam Review
Week 10	M	10.18	**Exam 2**
	W	10.20	Exponential growth (Ch 10)
	F	10.22	Exponential growth
Week 11	M	10.25	Fundamentals of climate change policy (Ch 11)
	W	10.27	Fundamentals of climate change policy
	F	10.29	Fundamentals of climate change policy
Week 12	M	11.1	Mitigation policies (Ch 12)
	W	11.3	Mitigation policies
	F	11.5	A brief history of climate science and politics (Ch 13)
Week 13	M	11.8	A brief history of climate science and politics
	W	11.10	Putting it together: long-term policy (Ch 14)
	F	11.12	Climate change documentary
Week 14	M	11.15	Putting it together: long-term policy
	W	11.17	Wrap-up/Exam review
	F	11.19	**Exam 3**
Week 15	M	11.22	Climate change project meeting
	W	11.24	**Thanksgiving Break - No Class**
	F	11.26	**Thanksgiving Break - No Class**
Week 16	M	11.29	Climate change project presentations
	W	12.1	Climate change project presentations
Final Exam		TBD	