

# UTEP ESCI 3308/ ESCI 5308, *CLIMATE SCIENCE*

Course Reference Number 25517 / 25521

SYLLABUS version 1.1

Online only, Spring Semester 2024

**Instructor:** Dr. Tom Gill Phone: 915-747-5168 [TO LEAVE VOICE MAILS ONLY: NO TEXT MESSAGES: DR. GILL WILL CALL YOU BACK: EMAILS ARE PREFERRED]. Email: tegill@utep.edu. You are encouraged to email me at tegill@utep.edu: TO ENSURE I WILL SEE YOUR MESSAGE, PUT “CLIMATE SCIENCE” IN THE SUBJECT LINE OF YOUR EMAIL. I will do my best to respond to emails within 24 hours except on weekends, but may not always be able to do so depending on my schedule. USING THE EMAIL UTILITY WITHIN BLACKBOARD IS NOT PREFERRED AND MESSAGES SENT WITHIN BLACKBOARD’S EMAIL SYSTEM MAY NOT BE RESPONDED TO AS PROMPTLY.

**Additional Instructor (will help out with course TBA):** Dr. Ron Albright, email: rjalbright@utep.edu

**Teaching Assistant (Grader):** Dr. Melissa Ortega, mnortega@utep.edu

**Regular weekly online open office /discussion hours on Zoom** through Blackboard: Tuesdays 3PM to 4PM. To access, follow link on course homepage on Blackboard. Meetings at other times are also encouraged to be set by appointment. I will not be available at all times, and generally will not be available on weekends.

This is a 100% online course, and requires access to Blackboard, the official UTEP course management system. In addition to Blackboard, some course materials must be accessed through an American Meteorological Society (AMS) Climate Studies portal (described below); in addition, other educational videos will be assigned to be watched on YouTube, Vimeo, and/or other platforms.

If you experience any problems with Blackboard (not the AMS portal), please call the UTEP Help Desk at 915-747-HELP to report the problem and help get it solved. If you have access issues with the AMS Climate Studies portal, contact them directly (link provided in the materials you purchase).

Your UTEP email is the official Blackboard email. All class and personal communication from Blackboard goes there automatically. It is your responsibility to check your UTEP email account often. You may be able to set up automatic forwarding of messages from your UTEP email account to another email address.

**Course Description:** A descriptive synthesis of Earth's climate system. Areas of emphasis include: (1) scientific foundations of the study of Earth's climate system, climate dynamics and climate change, (2) basic understandings of Earth's climate system as a part of the overall Earth system and Earth's place in the solar system, (3) geological and instrumental record of climate, and (4) human impacts on the climate system, including human vulnerability and response to climate change.

**Prerequisite:** GEOG 1306 OR GEOL 1311 OR GEOL 1313 OR GEOG 3306 OR GEOP 4306/5306, OR an introductory course in geology, earth science, physical geography, OR atmospheric science: OR instructor approval.

**Text: (required for all students)**

**(A) Climate Studies Student e-Package 2023 – 2024**

*(Includes Textbook, Investigations Manual download, and Portal Access)* ISBN: 978-1-944970-89-5

**“Climate Studies Student e-Package bundles *Our Changing Climate* and *Climate Studies Investigations Manual* with with *RealTime Climate Portal* access at a discounted price.”**

**Climate Studies Student Package = *Our Changing Climate Textbook* + *Climate Studies eInvestigations Manual***

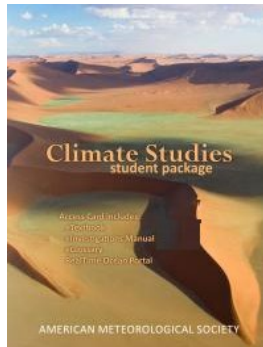
You **MUST** have the 2023- 2024 *Climate Studies e-Investigations Manual* and *Our Changing Climate* textbook , which are electronic files (e-books)! Previous editions of the textbook or investigations manual will be different. The American Meteorological Society and (hopefully) the UTEP bookstore both sell the Student Package. If not available at the bookstore, it can be purchased through this link.

<https://edubooks.ametsoc.org/CLPK-23>

ASSIGNMENTS FROM THE BOOK AND MANUAL MAY BE GIVEN STARTING THE FIRST WEEK OF THE SEMESTER AND WILL BE DUE BY THE START OF THE FOLLOWING WEEK OF CLASS.

**(B) FOR GRADUATE STUDENTS AND HONORS STUDENTS ONLY: ADDITIONAL BOOK:**

TBA



ALL STUDENTS      GRADUATE STUDENTS

**ALSO REQUIRED:**

All students will be required to sign up at the MetEd (Meteorological Education) site operated by the COMET (Comprehensive Meteorological Education and Training) program so that they can complete the assigned online COMET modules and quizzes. If you are not already signed up for this from a previous class, go to: <https://www.meted.ucar.edu/registration.php> and follow the instructions and fill in the boxes for registration. You MUST check the box “Yes, my progress and quiz results may be shared with my employer, organization, or institution” and give Dr. Gill’s email [tegill@utep.edu](mailto:tegill@utep.edu) in the highlighted box “Supervisor/Instructor E-mail” so that Dr. Gill will receive the results from the quizzes you take at the COMET site.

**Additional Requirements:**

In order to participate in this course, the following requirements must be met:

- Internet connection. You will need to access Internet pages regularly in this class (see below).
- Computer and software with the ability to **download, display, and print** Graphical Image Files (.gif) and text files (.html and .txt) from the Internet.

**In addition to Blackboard (see above), you will also be required to regularly log in to a special Climate Studies online homepage (portal) which can be accessed through the information you receive when you purchase the “Climate Studies Student e-Package.” Each individual enrolled in this course by buying the student package will be given a unique ID and password to access the Portal.**

The web sites listed above will be used to provide all materials for this course.

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**This course will follow to a large extent the American Meteorological Society’s Climate Studies curriculum.**

**Course Objectives:** By successfully completing this course, students will develop a solid working understanding of Earth’s climate system. Primary areas of emphasis will include: (1) scientific foundations of Earth’s climate system and climate dynamics, (2) basic understandings of climate behavior as a part of the Earth system, (3) the geological and instrumental record of climate, and (4) human impacts on the climate system, including human vulnerability and response to climate change. The background and skills gained during this course may be important to their future careers and lives as a citizen in a global community impacted by climate change.

**Course Format:** This class will be offered completely online and asynchronously. Office hours will be provided. Materials will include pre-recorded lectures and videos, reading and homework assignments, tests and other assessments, and/or other items.

**Homework Assignment Due Dates and Posting of Course Materials:**

Homework assignments must be uploaded to Blackboard by the assigned deadline date and time, generally one week from the time the assignments are posted online. Class materials for each week/chapter including homework

assignments will be uploaded to Blackboard by the dates shown on the class schedule shown on the last page of the syllabus. On the Blackboard page for this class will be a set of folders for each chapter where material is organized to view and download lectures and other materials for every week, links to video and audio files which are part of the official class presentation for every week, and instructions for any additional reading and viewing assignments. The Blackboard site will be organized by week of the course (generally corresponding to chapter).

**Attendance and Grading:** Attendance will not be taken since this is an online course but you will fall behind if you do not complete all the assigned materials each week. *If you know you cannot participate in class during a particular week, please let Dr. Gill know in advance!* Much of the material covered in the online video lectures and COMET modules, will NOT be in the book, and some of the material from the book will not be covered in class and exams. You will be responsible for both. You will be responsible for the material in the book, the AMS web portal, and the materials provided and/or assigned on Blackboard, COMET modules, and in the video lectures.

The final grade for the course will be based on:

60% Homework/ exercises (including, for graduate students, additional weekly writing assignments), assignments (including quizzes and assessments), and class participation.

40% Best Four Out Of Five Quizzes (Open-book take home quizzes will be given every four weeks or so, covering three or four chapters. A “final quiz” will be given during Finals Week. Each one counts 10% of your grade. However, your lowest quiz score will be dropped.)

For graduate students, more assignments will be required than for undergraduates, and there may be extra questions on examinations to be completed by graduate students only.

● *Planned Letter Grading:* A ≥ 90% of top score; B 80-89% of top score; C 70-79% of top score; D 60-69% of top score; F < 60% of top score.

According to UTEP Catalog, “At the discretion of the instructor, a student can be dropped from a course because of excessive absences or lack of effort. A grade of “W” will be assigned before the course drop deadline and a grade of “F” after the course drop deadline.” Failing to turn in assignments for three weeks in a row without giving acceptable notice will put you at risk of being dropped. If I find that, due to non-attendance in the course, you are at risk of failing, you MAY (not necessarily, but possibly) be dropped from the course. I will provide multiple advance notices via email before dropping anyone.

**Incomplete Grade (I) Policy:** As per the College of Science recommendations, Incomplete grades may be requested only in exceptional circumstances after you have completed at least half of the course requirements. Discuss with Dr. Gill immediately if you believe an incomplete is warranted. If granted, we will establish a contract of work to be completed with deadlines.

**Course Drop Policy:** the College of Science aligns with UTEP with respect to course drop dates. No requests for a withdrawal will be approved after the College of Science drop date. Students can always petition the Registrar for a complete withdrawal from all courses pending documentation.

**Policy on Late Homework/ Assignments:** Unless otherwise notified by Dr. Gill, NO homework or other assignments will be accepted late except for reasons other than illness or injury (health professional’s note may be required), the instructor’s prior approval, or when a student is required to be on official University or government business (documentation required). Since this is a coordinated nationwide curriculum, it is crucial that all assignments be turned in on schedule.

**Policy on Make Up Examinations:** Unless otherwise notified by Dr. Gill, NO make-up quizzes will be given. All students may drop one of the five assigned quizzes, so all students may miss one quiz without penalty.

**Alternate Means of Submitting Work Online In Case of Technical Issues:** Since assignments are to be submitted online, you should plan to submit your work with plenty of time to spare in the event that you have a technical issue with the course website, network, and/or your computer. It is strongly advised that you save all your work in a separate document as a back-up. This way, you will have evidence that you completed the work and may

not lose credit. If you are experiencing difficulties submitting your work through the course website on Blackboard, please contact the UTEP Help Desk. You can email Dr. Gill your back-up document as a last resort.

**Students with Disabilities:** If you have (or think you may have) a disability, and need accommodation, contact the Center for Accommodations and Support Services at (915) 747-5148 (voice or TTY), visit their office in Union East Room 106, online at <https://www.utep.edu/student-affairs/cass/> or by E-Mail at [cass@utep.edu](mailto:cass@utep.edu). This is the office at UTEP that is designated to determine eligibility for accommodations and services to students with disabilities, and will arrange for any necessary accommodations.

**Academic (dis)honesty and other issues:** Academic dishonesty is prohibited and considered a violation of the UTEP Handbook of Operating Procedures. It includes but is not limited to cheating, plagiarism, and collusion. In this class, since it is an upper division science course, you are expected to complete your own work, but consultation with your classmates and others (collaboration) is encouraged though not required on homework assignments and exercises (but NOT for tests).

**Guidance on Use of Artificial Intelligence (AI) such as ChatGPT:** Dr. Gill considers the use of an AI such as ChatGPT to provide answers to assignments and assessments, without disclosure of its use, to be an example of academic dishonesty. Please note that Dr. Gill has discovered that AI tools including ChatGPT often give the wrong answers! The use of generative AI tools such as Chat GPT is permitted only with a disclosure that it was used, in every instance that it is used.

## HOW TO COMPLETE THIS COURSE

This is an asynchronous class which means you can watch the videos, read the book, and review the other assigned materials whenever you want; and can turn in assignments and assessments including COMET modules for credit anytime you wish as long as it is before the deadline. Attendance in the course is determined completion of weekly assignments.

Every week, you are expected to

- (1) Review the posted materials including presentations from Dr. Gill and the American Meteorological Society, video mini-lectures from Dr. Gill, any other materials assigned in Blackboard in each week's "Instructions, Assignments and Materials," and reading the assigned chapter in the textbook. Pay particularly close attention to the "Essential Questions," "Review Questions," "Critical Thinking Questions," and "Key Terms" from each week's textbook reading, and also pay close attention to the "Additional Presentation" and "Multiple Choice Questions" for each chapter posted on Blackboard. There will be approximately 50 to 70 Multiple Choice Questions posted every week. You are not assigned to answer and turn in answers to these questions for credit. However, approximately five to seven of the Multiple Choice Questions for each chapter will appear on the quizzes!
- (2) Complete and turn in (through Blackboard) an Investigation or Investigations from the E- Investigations Manual, AND
- (3) Access the Climate Studies online homepage (portal), review material there, and complete and turn in (through Blackboard) additional Investigation or Investigations called "Current Climate Studies."
- (4) Many weeks, you will also be assigned to access the COMET web page (see above) and complete online modules which may include viewing a video or videos, and successfully completing an online quiz.
- (5) Follow any other instructions provided by Professor Gill for handling your learning materials.
- (6) Graduate and honors students will be required to read one chapter of **TBA** each week and write a reflection/review of that chapter to be turned in for credit.

The Climate Studies online homepage ("portal") may be accessed by the following address:

(This information is provided to you when you download or buy the book. You will receive a unique login and password.)

<https://edubooks.ametsoc.org/user/anonymous>

**Gain access by inputting your ID and password, and clicking on "LOGIN".**

If you lose your login ID and password, you will lose access to this information!

Once you access the Online Climate Studies homepage, each boxed item under the major headings is an active link to the information identified by that title.

**EXPECTED Course Outline:**

**NOTE: This schedule could change (just like the climate!) based on the needs, requirements and opportunities of the students, professor, availability of new materials, and the actual atmospheric conditions and phenomena which may be observable or happening on any given day.**

Reading of various chapters from the book is required for each week of online study below. You will be expected to do the readings and access the Online Climate Studies home page, as well as Blackboard, every week, as detailed above in the syllabus. Graduate students and honors students will be required to read one chapter from the additional text as well every week. The online lectures, videos, and other assignments and posted materials are considered an addition to/illustration of the readings and material from the AMS Climate Studies portal, and may not always match what is in the text or the online Climate Studies portal material.

CHAPTER # IN TEXT	WEEK STARTING (TUE)	TOPIC
	JAN 16	Introduction to Course and Set-Up of Semester
1	JAN 23	Earth's Climate as a Dynamic System
2	JAN 30	Observing and Monitoring Earth's Climate System
3	FEB 6	Tools for Investigating Earth's Climate System
4	FEB 13	Radiation, Heat, Temperature and the Earth's Climate System QUIZ 1 ON CHAPTERS 1-3
5	FEB 20	Global Water Cycle and Climate
6	FEB 27	Global Atmospheric Circulation
7	MAR 5	Atmosphere-Ocean Relationships QUIZ 2 ON CHAPTERS 4-6
	MAR 12	SPRING BREAK
8	MAR 19	Natural and Anthropogenic Drivers of Climate Change
9	MAR 26	Paleoclimate, part I
	MAR 28	COURSE DROP DEADLINE
9	APR 2	Paleoclimate, part II
10	APR 9	Climate of the Future QUIZ 3 ON CHAPTERS 7-9
12	APR 16	Climate Change Mitigation and Adaptation
13	APR 23	Vulnerabilities and Public Policy Response to Climate Change
14	APR 30	Climate Science In A Changing Society QUIZ 4 ON CHAPTERS 10, 12, 13
	MAY 7	FINAL EXAM WEEK QUIZ 5 ("FINAL" QUIZ), to be completed date/time TBA- In addition to Chapter 14, part of the quiz will be a repeat of prior quiz questions from quizzes 1, 2, 3, and/or 4.