

Course Information**Course Number:** GEOG 324, Spring 2025**Course Title:** Global Climatic Regions**Section:** 900**Credit Hours:** 3**Time and Location:** MWF 9:10 -10:00 a.m., CSA 303**Course Prerequisites:** GEOG 203, ATMO 201, or consent of instructor.**Class Webpage:** <https://canvas.tamu.edu/>**Instructor Details****Instructor:** Dr. Shobha Yadav**Office:** 814C Eller Oceanography and Meteorology Building**Phone:** 979-458-2587**Email:** shobhayadav@tamu.edu**Office hours:** Monday and Wednesday 11 am to 12 pm or by appointment

Course Description: This course will explore climatological processes on scales ranging from micro to macro, aiming to understand climate's spatial and temporal variations. We will delve into the characteristics of the global climate system, with particular emphasis on the Northern Hemisphere's climate. Lectures and readings will cover the fundamental principles essential for comprehending climatology. GEOG 324 is a writing-intensive course that fulfills the writing requirement for GEOG, GIST, ENGS, and ENST majors. It is designed to train students to write and think like climatologists. Recognizing that writing is a process that involves revision, students will work on individual term papers to conduct an in-depth study of a climatological topic of interest. This assignment will require a review and synthesis of relevant literature and data analysis in the chosen area. The course provides opportunities for students to enhance their writing through feedback from the instructor and peers, self-proofreading, and developing peer-review and revision skills.

Special Course Designation: This is a writing-intensive course, so you must earn a passing grade on the written assignments (research paper and homework assignments) to receive a passing grade in the course.

Course Learning Outcomes: After completing this course, you should be able to accomplish the following activities (skill objectives) and have the following knowledge (knowledge objectives):

Knowledge objectives (things you should know by the end of the course):

- Define climatology and describe why it is an important science.
- Describe what is meant by the term normal as it relates to climatology, and how climate normal is calculated.
- Describe the processes that are responsible for the world's climates.

- Describe the spatial distribution of each climate type and why they are distributed in this manner.
- Discuss the major sources of climate variability and climate change, both natural and anthropogenic
- Discuss some of the contemporary issues in climatology. What are climatologists researching? Why are these issues important?

Skill objectives (things you should be able to do by the end of the course):

- Interpret formulas, graphs, tables, and schematics, and draw inferences from them.
- Represent climate information symbolically, visually, numerically, and verbally.
- Interpret statistics to describe different climates.
- Analyze trends in climate data.
- Perform library research.
- Develop a testable scientific hypothesis and find and analyze climate data to prove/disprove it. Develop the ability to construct and defend a scientific argument.
- Write a literature review (synthesis of the literature)
- Write a paper outline.
- Proofread and edit your work.
- Critically evaluate your writing and the writing of your peers
- Clearly communicate research results and information in written form
- Write a scientific research paper that conforms to the style of a peer-reviewed publication.

Recommended Textbook and/or Resource Materials: *Climatology*. R. Rohli and A. J. Vega. 4th, 3rd, or 2nd. Jones and Bartlett.

Grading: Exam, quiz, and course grades are non-negotiable. Grades are determined based on performance, not on need or effort. Your grade reflects your achievement in this class, not your character or overall abilities as a student. If you believe there has been a mathematical error in calculating your grade, please schedule an appointment or visit me during office hours. I am not able to email you your grades because of the Family Educational Rights and Privacy Act ([FERPA](#)).

The final grades may be computed using a curve if it is appropriate. The curve in this course solely helps to increase your final course grade potentially; **under no circumstances** will I ever curve the grades in a way that is to your disadvantage.

| Task | Points | Percent of total |
|---------------------|------------|------------------|
| iClicker Activities | 40 | 5% |
| Class Activities | 80 | 10% |
| Paper development | 392 | 49% |
| Exam II | 120 | 15% |
| Exam III | 120 | 15% |
| Quizzes | 48 | 6% |
| Total | 800 | 100% |

Paper Development: (See below for the details about the multiple assignments) - 49% (392 pts)

- ⇒ Paper Topic Selection – 10 pts
- ⇒ Annotated Bibliography - 20 pts
- ⇒ Update on Research Paper – 12 pts
- ⇒ Paper Outline – 50 pts
- ⇒ Data and Methods – 30 points
- ⇒ Paper Rough Draft – 80 pts
- ⇒ Peer Review – 40 pts
- ⇒ Final Paper – 150 pts

The grading scale follows the Texas A&M University grading system:

| | |
|------------------|--------|
| A = Excellent | ≥90% |
| B = Good | 80–89% |
| C = Satisfactory | 70–79% |
| D = Passing | 60–69% |
| F = Failing | <60% |

Exams: The exam questions will be based entirely on the material presented in class; therefore, class attendance is essential if you are to obtain the information necessary for the exams. For an absence considered excused by the university ([see Student Rules](#)), the student will be required to make up the missed exam. At the instructor's discretion, the make-up exam might be in a different format (e.g., essay) than the original exam. Please see the instructor in advance if you know you will not be able to take a test on the scheduled date.

The exams will consist primarily of objective-type multiple-choice and true and false-questions. I do not have any lecture notes to give out. If you miss class, the best strategy is to get the lecture notes from at least two of your classmates, copy them, make note of any confusing material, and see me with any questions that arise. However, I will provide a study guide before the exam and the content will be reviewed if time permits.

Quizzes: There will be two graded quizzes during the semester before the exam. These quizzes are worth 6% of your overall grade and will help you become familiar with the exam format.

Research Paper Development: Since this is a W course you will need to write a research paper in the semester, worth 392 points. This paper will be based on a topic of your choosing and will of course relate to climatology. The paper will be written in stages, where you will first select a topic, then write an outline, followed by an annotated bibliography, outline, data and methods, results, a rough draft, peer review, and the final paper. Your rough draft will also be peer-reviewed, and you will be able to revise your paper based on this input before turning in your final version. More information about the paper is in the "[Research Paper Structure and Guidelines](#)" handout and will be provided throughout the semester. Canvas and Packback will be used to deliver all instructions. We will discuss research paper content in detail in the classroom as well.

The Packback Writing platform will be used for online discussion about class topics. For a brief introduction to Packback Questions and why we are using it in class, watch this [video](#). Your participation in Packback will count toward 49% of your overall course grade. If you have any questions or concerns about Packback, please read their Help articles at help.packback.co. If you need more help, contact their customer support team directly at help@packback.co.

Class Activities: Class activities specifically include attendance during guest lectures (Guest speakers), in-class activities, reading discussions, worksheets, practice quizzes, and attending all presentations by students. Note that attendance is mandatory during all guest lecture days. Points will be deducted if you are not present in the classroom during your fellow students' presentations. More information about the class activities is in the "[Class Activities Handout](#)" and will be provided on Canvas. **Canvas and Packback will be used to deliver all instructions. We will discuss assignments in detail in the classroom as well.**

iClicker Activities: I will be using iClicker software this semester to conduct quizzes about the course material in class. This will help me gauge student comprehension and understanding of particular topics throughout this course. You are required to bring your smartphone, tablet, or laptop device to participate in my iClicker sessions during class. It is also your responsibility to properly set up your iClicker account in a timely fashion and to regularly check your iClicker grades for any discrepancies and bring them to my attention quickly. There will be four such sessions throughout the semester which might be conducted without any announcement. Five percent of your grade will be based on iClicker responses. Please check a separate ppt on Canvas for more detailed information on how to set up an iClicker account.

Late Work Policy: All assignments must be submitted by the due date at Canvas. **LATE ASSIGNMENTS WILL BE DEDUCTED 10% PER EACH DAY** (unless they have university excused absence (see Student Rules, <https://student-rules.tamu.edu/rule07/>)). Students who have excused absences from the exams will have the opportunity to make them up within one week of the original offering date (no make-up time after that). **There is no extra credit for this class.**

Attendance policy: Class attendance is required. Attendance is regularly counted. Class attendance contributes significantly to academic success. Students who attend classes regularly tend to earn higher grades and have higher passing rates in courses. Excessive absences may jeopardize students' grades or even their ability to continue in their courses. "The university views class attendance as an individual student responsibility. Students are expected to attend class and to complete all assignments."

It is very easy to fall behind during a semester. If you cannot take/submit an exam/quiz/assignment because of an excused reason, please contact me as soon as possible. Official documentation should be provided to facilitate the decision. If you are aware of a situation in advance that will conflict with an assignment or test date, it is your responsibility to contact me beforehand and let me know. In cases where advance notification is not feasible (e.g., accident or emergency) you must provide notification by the end of the second working day after the absence. This notification should include an explanation of why notice could not be sent prior to the class. If the absence is considered excused by the university (see [4](http://student-</p></div><div data-bbox=)

rules.tamu.edu/rule07), you will be able to make up the missed exam/assignment. The instructor's decision is final regarding this matter. Computer issues are not a valid excuse for not taking an exam or turning in something late. At my discretion, the make-up exam might be in a different format (for example, essay instead of multiple choice) than the original exam.

Communications: The best way to contact me is through email. Please use your **official @email.tamu.edu e-mail** to communicate with you if you have any questions regarding the class. I cannot respond to messages from personal Gmail, Yahoo, etc. accounts. **When emailing me about class put "GEOG 324" in the subject line.** All the class-related announcements including exam information papers, or mistakes I made in the lecture will be communicated through email. Please check your **official @email.tamu.edu e-mail** regularly for potentially important announcements. **Please do not use Canvas to communicate with me.**

Please use my **office hours** (as mentioned above) to discuss your grade as well to ask questions. Email is not a substitute for office hours, but you can email me if you have any questions. I will try my best to answer your questions through E-mail promptly (by the next 2 school days). If you do not receive a response, please follow up with me because we may not have received the e-mail for various reasons. Do not wait until the last minute to ask questions, especially before the exam.

General Expectation: Feel free to bring laptops, iPads, or any other devices to class, as long as they are used for classroom purposes. However, any rude or disruptive behavior will not be tolerated to ensure a positive learning environment. You will be asked to leave the class if your behavior is considered inappropriate.

Copyright: The materials used in this course are copyrighted. These materials include but are not limited to the syllabus, quizzes, exams, slides, in-class materials, handouts, and additional problem sets. Because these materials are copyrighted, **you may not upload your class notes or any other course materials (e.g., this syllabus, any lecture slides, quizzes, and/or exam questions) to note-sharing or tutoring/student services websites.** Doing so constitutes a violation of the Aggie honor code, in addition to copyright infringement.

University Writing Center (UWC): The UWC is located in suite 1.214 on the second floor of Evans Library. It provides students with one-on-one consultations with a trained writing consultant. They can help you with all aspects of the writing process (e.g., how to start writing, how to proofread your work, how to write an introduction). Please call (458-1445), click (<http://writingcenter.tamu.edu>), or visit the UWC to make an appointment or to find out more about their services.

ChatGPT and Generative AI Tools: You may use AI programs e.g. ChatGPT to help generate ideas and brainstorm. However, you should note that the material generated by these programs might be inaccurate, incomplete, or otherwise problematic. Beware that use may also reduce your own independent thinking and creativity. You **may not submit any work generated by an AI program as your own.** If you include material generated by an AI program, it should be cited and rephrased like any other reference material.

Any plagiarism or other form of cheating will be dealt with severely under relevant Texas A&M University policies.

Course Topics and Tentative Schedule: Spring 2025***

| Date | Topic (Optional Chapter) | Reading | Exam/Quiz/ Assignment Due |
|-------------|--|----------------|---|
| 13-Jan | Course Introduction | | |
| 15-Jan | Introduction to Climatology (Weather and Climate) | Chapter 1 | |
| 17-Jan | Atmospheric Structure and Composition | Chapter 2 | Last Day to Drop Class ** Class Activity |
| 22-Jan | Atmospheric Structure and Composition | Chapter 3 | |
| 24-Jan | How to do a literature search and Bibliography and annotated Bibliography | | Guest Lecture – Library |
| 27-Jan | Controls on the Climate System | Chapter 3 | *Paper Topic Selection Due |
| 29-Jan | Controls on the Climate System | Chapter 3 | |
| 31-Jan | Controls on the Climate System | Chapter 3 | ** Class Activity |
| 03-Feb | Introduction to the Paper Writing | | |
| 05-Feb | Controls on the Climate System | Chapter 3 | |
| 04-Feb | Controls on the Climate System | Chapter 3 | |
| 07-Feb | Atmospheric Interactions with the Other Spheres | Chapter 4 | *Annotated Bibliography is Due ** Class Activity |
| 10-Feb | Atmospheric Interactions with the Other Spheres | Chapter 4 | |
| 12-Feb | Atmospheric Interactions with the Other Spheres | Chapter 4 | |
| 14-Feb | Avoiding Plagiarism for Undergraduates | | Possible Guest Lecture (UWC) |
| 17-Feb | Atmospheric Interactions with the Other Spheres | Chapter 4 | |
| 19-Feb | Atmospheric Interactions with the Other Spheres | Chapter 4 | |
| 21-Feb | Energy, matter, and Momentum Exchange near the Surface | Chapter 5 | *Paper Outline Due ** Class Activity |

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| 24-Feb | Energy, matter, and Momentum Exchange near the Surface | Chapter 5 | |
| 26-Feb | Energy, matter, and Momentum Exchange near the Surface | Chapter 5 | |
| 28-Feb | Update on Research (Oral Presentation) | | * |
| 03-Mar | Energy, matter, and Momentum Exchange near the Surface | Chapter 5 | |
| 05-Mar | Review Session for EXAM I | | Quiz I |
| 07-Mar | EXAM I | | |
| 10-Mar to 14-Mar | SPRING BREAK | | |
| 17-Mar | How to Write a Scientific Paper II: Read Like a Climate Scientist | | |
| 19-Mar | Global Hydrological Cycle and Surface Water Balance | | |
| 21-Mar | Global Hydrological Cycle and Surface Water Balance | Chapter 6 | *Data and Methods Due ** Class Activity |
| 24-Mar | General Circulation and Secondary Circulation | Chapter 6 | |
| 26-Mar | General Circulation and Secondary Circulation | Chapter 6 | |
| 28-Mar | General Circulation and Secondary Circulation | Chapter 7 | ** Class Activity |
| 31-Mar | Climatic Classification | Chapter 7 | |
| 02-Apr | Extratropical Northern Hemisphere Climates | Chapter 7 | |
| 04-Apr | Climate of Europe & Asia | Chapter 8 | *Rough Draft Due ** Class Activity |
| 07-Apr | Regional Northern Hemisphere Climates | Chapter 9 | |
| 09-Apr | Tropical Climate of Africa | Chapter 9 | |
| 11-Apr | Australia, Oceania, and Latin America | Chapter 9 | ** Class Activity |
| 14-Apr | Regional Southern Hemisphere Climates | Chapter 10 | |
| 16-Apr | Climate Change and Variability – A Paleoclimate Overview | Chapter 10 | *Peer Reviewed Due |
| 18-Apr | No Class | | |

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| 21-Apr | Linking Spatial and Temporal Aspects of Climate Through Data | Chapter 13 | |
| 23-Apr | Review Session for Exam II | | Quiz II |
| 25-Apr | EXAM II | | |
| 28-Apr | No Class | | *Work on the Final Paper |
| 29-Apr | Last Day of Class | | *Final Paper Due |

* *Research Paper Components*

** *: Class Activities*

****Note: This outline is only a guide. You should expect departures from this outline.*

University Policies

Academic Integrity

Aggie Code of Honor: “An Aggie does not lie, cheat, or steal, or tolerate those who do”

<https://aggiehonor.tamu.edu/>

Texas A&M has an *Academic Integrity Policy* to which both students and faculty must comply. The Aggie Honor System Office handles all cases of academic misconduct. Details about the Aggie Honor Policy can be found at <https://aggiehonor.tamu.edu/>.

Plagiarism is when you pass off someone else’s work (language or ideas) as your own. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you have the permission of that person. Plagiarism destroys the trust among colleagues without which research cannot be safely communicated.

For more information, see “Scholastic Dishonesty” under the Texas A&M University Student Rules: <https://student-rules.tamu.edu/>.

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring accommodation, please contact Disability Services, currently located in the [Student Services Building](#), or at (979) 845-1637. For additional information, visit <https://disability.tamu.edu/>.

Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based

discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see University Rule 08.01.01.M1):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention—including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, a person who is subjected to the alleged conduct will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University's goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need. Students wishing to discuss concerns in a confidential setting are encouraged to make an appointment with Counseling and Psychological Services (CAPS). Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University's Title IX webpage.

Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student's academic success and overall well-being. Students are encouraged to engage in proper self-care by utilizing the resources and services available from Counseling & Psychological Services (CAPS). Students who need someone to talk to can call the TAMU Helpline (979-845-2700) from 4:00 p.m. to 8:00 a.m. on weekdays and 24 hours on weekends. 24-hour emergency help is also available through the National Suicide Prevention Hotline (800-273-8255) or at suicidepreventionlifeline.org.

Academic Freedom and Classroom Discussion

Academic freedom is a cornerstone of the University. Academic freedom in its teaching aspect is fundamental for the protection of the rights of the teacher in teaching and of the student to freedom in learning.

- 1) Each faculty member is entitled to full freedom in the classroom discussing the subject which the faculty member teaches.
- 2) Texas A&M will not penalize or discipline members of the faculty because of their exercise of academic freedom.

Along with this freedom comes responsibility. It is the responsibility of faculty members to ensure that topics discussed are related to the classroom subject. Students should be free

to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.

- 3) It is not the proper role of the university or any outside agency to attempt to shield individuals from ideas and opinions they find unwelcome, disagreeable, or even deeply offensive.

Engaging with new ideas and perspectives helps students grow intellectually and is beneficial to the educational process.