Extreme Weather - GEO2242

[3 Credit Hours]

Gen Ed 'P' – Physical Science

Summer A 2025 Syllabus

Class format: Online (Asynchronous)

Instructor: **Airin Akter** **Email:** akter.a@ufl.edu **Office Hours:** Fridays 11:00 am - 1:00 pm EST or by appointment on Zoom (link on Canvas)	**Instructor:** **Md. Shaharier Alam** **Email:** alam.md@ufl.edu **Office Hours**: Tuesday 12:00 pm– 2:00pm EST or by appointment on Zoom (link on Canvas)

Course Description and Objectives:

This course will introduce students to the basic concepts of the science of weather and climate and current scientific developments in areas such as extreme weather prediction, global climate change, and weather forecasting. In addition, the course will address the impact of extreme climate and weather events on society and the environment. The goal of this course is to bring weather and climate alive through required readings, assignments, video presentations, satellite technologies, online class activities and computer simulations. Weekly readings will be enhanced using multimedia products and online activities, reinforcing concepts related to extreme climate and severe weather events.

Student Learning Outcomes:

- Identify, describe, and explain fundamental concepts and terminology in meteorology and climatology.
- Formulate hypotheses derived from the study of physical processes in the atmosphere and climate systems.
- Apply logical reasoning skills to critically evaluate scientific data and arguments related to weather and climate.
- Communicate scientific knowledge and reasoning clearly and effectively, especially regarding the impacts of meteorological phenomena on society and the environment.

Prerequisites: None.

General Education Objectives

This course is a physical science (P) subject area course in the UF General Education Program.

Physical science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the physical sciences. Courses focus on major scientific developments and their impact on society, science and the environment, and the relevant processes that govern physical systems. Students will formulate empirically testable hypotheses derived from the study of physical processes, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments. For more information: https://undergrad.aa.ufl.edu/general-education/gen-ed-program/subject-area-objectives/

Course Website: Log in to CANVAS at https://elearning.ufl.edu/

Course Communications: You can email at the email given above or via email in Canvas. If emailed via Canvas, they keep a full record of it – so this is preferred.

Required Text: '***The Atmosphere***' by Lutgens, Tarbuck and Tasa, 14th edition, ISBN: 9780134801100 eBook from Pearson. Available access to sign up for this text can be found by logging into the course on Canvas and accessing via the canvas page. The cost is around $80.00. This is a required e-text, and you must purchase it via UF All-Access

(https://www.bsd.ufl.edu/allaccess) and Canvas. Weekly reading assignments, quiz assessments and homework assignments will be run through the eBook and the Mastering Meteorology platform, which is synced with the Canvas page, so you MUST obtain this as soon as possible.

See information in Canvas on How to Sign Up and Purchase this eBook – on 'Home' page of canvas course, via UF All-Access. PDFs of eBook and Mastering registration instructions are available on Canvas.

Course Policies and Assignments:

Course organization: This course is organized by 'Modules'. Each module covers a chapter in the eBook and has three [3] assignments: a homework assignment, a mapping activity, and an end of the module quiz.

Readings and Homework: Each module has an assigned chapter reading with a related module homework – these test that you have completed the readings, and the goal of these homework assignments is to test your understanding of the material, to reinforce concepts from the reading and videos, and to allow you to apply your skills and knowledge in a relaxed online learning environment. You need to read the chapter prior to starting and completing the homework. There is a homework for each module, they are worth 100 points each, contain 10-20 questions, and will take roughly 1 to 1.5 hours (some are shorter like 30-45 minutes). You have 3 attempts, and your best score is kept.

Mapping Activities: The mapping activities will introduce you to some basic mapping concepts like layers and projections, etc. As well as applying critical thinking to different weather and geography topics and issues presented throughout the course. These will use 'MapMaster2.0' questions (where available), 'Thinking Spatially' questions (where available) and 'Encounter' questions like Encounter Meteorology/Physical Geography/Geosystems that use Google Earth Pro. MapMaster and Google Earth Pro are fully integrated into the Mastering online platform and built into the questions – they will pop up as another window. These assignments are worth 100 points each, contain 4-8 questions and have 3 attempts where your top score counts. These have an estimated completion time that is less than the homework but will depend on individuals working with the online tools and if you need help in office hours, for example.

End of Module Quizzes: To summarize the module and test your general knowledge and comprehension of that module's topics, there is a quiz. These are worth 100 points each, consist of 50 questions, and 1 attempt of 60 minutes. Keep in mind, this tests the range of all materials in the module and eBook chapter – you will need to read chapter to do well in the quizzes. If you have extenuating circumstances where you need another attempt, or disability accommodations (discussed below) where you need extra time, etc., please communicate this in advance. Additionally, the number of modules and assignments (including the quizzes) are created in such a way that one bad grade or missed assignment will not tank your final grade in the course.

Final Exam: There will be a final exam for this course. This will test your comprehension and understanding of the material from the entire course. Module assignments and activities will make up most of your overall grade. The final exam will be worth 525 points or about 11% of the total points in the course. The final exam will be a comprehensive exam and will cover all material in the course. There will be 10 questions from each module for 140 questions. You will have *at least* 2 hours to complete the final exam.

Late/Make-up Work Policy: All assignments and quizzes must be submitted on time. If a student misses a deadline or anticipates missing a deadline, they are responsible for requesting make-up or an extension; otherwise, they will receive a zero. Late work will be eligible for full credit, with no points deducted. Students are responsible for completing any work or assignments missed. Students are urged to contact the instructor about extensions or makeup work as soon as possible.

UF Policies:

University Policy on Accommodating Students with Disabilities: Students requesting accommodation for disabilities must first register with the Dean of Students Office (https://disability.ufl.edu/). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are

not retroactive; therefore, students should contact the office as soon as possible in the term for which they are seeking accommodation.

University Policy on Academic Misconduct: Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/.

Netiquette & Communication Courtesy: All members of the class are expected to follow rules of common courtesy in all email messages, zoom meetings, threaded discussions, and chats.

Grading Policies:

Assignment Type	Points	Percentage of Final Grade
Introduction to Mastering Geography	Complete/Incomplete	**0%**
Module eBook Chapter Readings	Complete/Incomplete	
Module Homework	100 points each	**80%**
Module Mapping Activity		
End of Module Quiz		
Final Exam	525 points	**20%**

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.

A minimum grade of C is required for general education credit. Courses intended to satisfy the general education requirement cannot be taken S-U.

GRADING SCHEME:
All grades will be available for you to see in Canvas and will be updated weekly. It is your responsibility to know how well you are doing in the class.

93-100% = A
90-92.9% = A-
87-89.9% = B+
83-86.9% = B
80-82.9% = B-
77-79.9% = C+
73-76.9% = C
70-72.9% = C-
67-69.9% = D+
63-66.9% =D
60-62.9% = D-
Less than 60 = E (Fail)

Assignment Schedule Below.

Module	*Assignments*	*Points*	*Dates*
Getting Started	* Introduction to Mastering Geography	* Complete/Incomplete	Monday, May 12, 2025
Module 1	* Read Chapter	* Complete/Incomplete	Monday, May 12, 2025
Introduction	* Homework	* 100 points	through
to the	* Mapping Activity	* 100 points	
Atmosphere	* End of Module Quiz	*100 points	Tuesday, May 13, 2025
Module 2	* Read Chapter	* Complete/Incomplete	Wednesday, May 14, 2025
Heating Earth's	* Homework	* 100 points	through
Surface and	* Mapping Activity	* 100 points	Thursday, May 15, 2025
Atmosphere	* End of Module Quiz	*100 points	
Module 3	* Read Chapter	* Complete/Incomplete	Friday, May 16, 2025
	* Homework	* 100 points	through
Temperature	* Mapping Activity	* 100 points	Monday, May 19, 2025
	* End of Module Quiz	*100 points	
Module 4	* Read Chapter	* Complete/Incomplete	Tuesday, May 20, 2025
Moisture	* Homework	* 100 points	through
and Atmospheric	* Mapping Activity	* 100 points	Wednesday, May 21, 2025
Stability	* End of Module Quiz	*100 points	
Module 5	* Read Chapter	* Complete/Incomplete	Thursday, May 22, 2025
Forms of	* Homework	* 100 points	through
Condensation	* Mapping Activity	* 100 points	Friday, May 23, 2025
and Precipitation	* End of Module Quiz	*100 points	
Module 6	* Read Chapter	* Complete/Incomplete	Tuesday, May 27, 2025
Air Pressure	* Homework	* 100 points	through
and	* Mapping Activity	* 100 points	Wednesday, May 28, 2025
Winds	* End of Module Quiz	*100 points	
Module 7	* Read Chapter	* Complete/Incomplete	Thursday, May 29, 2025
Circulation of	* Homework	* 100 points	through
the	* Mapping Activity	* 100 points	Friday, May 30, 2025
Atmosphere	* End of Module Quiz	*100 points	
Module 8	* Read Chapter	* Complete/Incomplete	Monday, June 2, 2025
	* Homework	* 100 points	through
Air Masses	* Mapping Activity	* 100 points	
	* End of Module Quiz	*100 points	Tuesday, June 3, 2025
Module 9	* Read Chapter	* Complete/Incomplete	Tuesday, June 3, 2025
	* Homework	* 100 points	through
Midlatitude Cyclones	* Mapping Activity	* 100 points	Wednesday, June 4, 2025
	* End of Module Quiz	*100 points	
Module 10	* Read Chapter	* Complete/Incomplete	Thursday, June 5, 2025
Thunderstorms	* Homework	* 100 points	through
and	* Mapping Activity	* 100 points	Friday, June 6, 2025
Tornadoes	* End of Module Quiz	*100 points	
Module 11	* Read Chapter	* Complete/Incomplete	Monday, June 9, 2025
	* Homework	* 100 points	through
Hurricanes	* Mapping Activity	* 100 points	Tuesday, June 10, 2025
	* End of Module Quiz	*100 points	
Module 12	* Read Chapter	* Complete/Incomplete	Wednesday, June 11, 2025
Weather Analysis	* Homework	* 100 points	through
and	* Mapping Activity	* 100 points	Thursday, June 12, 2025
Forecasting	* End of Module Quiz	*100 points	
Module 13	* Read Chapter	* Complete/Incomplete	Friday, June 13, 2025
The	* Homework	* 100 points	through
Changing	* Mapping Activity	* 100 points	Monday, June 16, 2025
Climate	* End of Module Quiz	*100 points	
Module 14	* Read Chapter	* Complete/Incomplete	Tuesday, June 17, 2025
	* Homework	* 100 points	through
World Climates	* Mapping Activity	* 100 points	Wednesday, June 18, 2025
	* End of Module Quiz	*100 points	
Module 15	***Final Exam***	525 points	***Due Friday June 20th, 2025***
		Total 4725 points	

Important dates:
May 26th: Memorial Day
June 19th: Juneteenth

Course Drop: If you decide to drop the course for any reason, you must request to do so through the appropriate channels by the appropriate date. Failing to do so will result in a failing (E) grade for the course. For planning purposes, it is helpful for you to communicate with me if you may need to drop the class.

Attendance policy: In this online course, attendance is not formally taken. However, active participation and engagement are encouraged to maximize learning. If you need to make up an exam or assignment due to unforeseen circumstances, please reach out to the instructor to coordinate alternative arrangements. For more information on the UF attendance policy visit: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

Course evaluations: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

Disclaimer: This syllabus represents current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.

Additional Resources

- **Academic Resources**
  - E-learning technical support: Contact the UF Computing Help Desk at https://helpdesk.ufl.edu/ , 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 https://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/
- **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 https://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/ .
  - 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; https://ufhealth.org/emergency-room-trauma-center