

ATSC2200: Severe and Unusual Weather
Spring 2026
Course Syllabus, Policies, and Outline

Meeting Times and Location

10:00 – 10:50 AM Monday, Wednesday, and Friday
Classroom Building 214

Class website: <https://sites.google.com/view/srahiimi/teaching>

Instructor

Dr. Stefan Rahimi, Assistant Professor

Office: EN 6030

Email: srahiimi@uwyo.edu

Office Hours: MWF 9–10a, other times by appointment

Teaching Assistant

Kyle Johnson

Office: EN 6051

Email: kjohn204@uwyo.edu

Office Hours: MW 11a-12p

Course Description

ATSC2200 is a nontechnical course on severe and unusual weather events that occur around the globe. The focus of the course is on a wide range of weather events that have profound impacts on societies, economies, and cultures, and the material is presented in a qualitative manner such that it is highly accessible by students coming from all backgrounds.

The course begins with an introduction to fundamental atmospheric principles (e.g., atmospheric structure, pressure systems, fronts, stability, etc.) needed to understand the environments conducive to severe and unusual weather. The course then shifts to two main foci: cold-season weather (e.g., blizzards, ice storms, lake effect snow, etc.) followed by warm-season weather (e.g., thunderstorms, hailstorms, tornadoes, hurricanes, etc.). The course ends with an overview of historic weather events.

Key Learning Objectives

- Understand and identify conditions and situations in which these weather phenomena occur
- Use fundamental meteorological tools/observations/measurements to describe the origin and evolution of severe weather
- Recognize patterns, cycles, and possible outcomes of severe and/or unusual weather events

Textbooks (Required)

Rauber, R., Walsh, J. E., and Charlevoix, D. J.: Severe and Hazardous Weather, 4th Ed.

Access for free via the Internet Archive at:

<https://archive.org/details/severeandhazardousw0000robe/page/n1/mode/2up>

Course Structure

Material is presented in 50-minute lectures, three times per week.

Lectures will typically begin with a short ‘snippet’ on some interesting/unusual/severe weather that has occurred recently. This may be a large snowstorm, a Tornado outbreak, or even

something mundane such as an unusually hot/dry streak of weather. Students will be encouraged to submit questions via email about unusual/severe events they may have heard about through the news or witnessed a day or so before class – otherwise you will need to put up with whatever I consider interesting.

The remaining 45-50 minutes will focus on topics for that week. Lectures will reinforce main points from the book chapters to be covered. It will be VERY USEFUL for you to read the chapters prior to the lectures. The book is easy and relatively quick to read.

There will be times during lecture that you are prompted with questions—often using something like *polleverywhere* to lead the lecture. We will also have small discussion groups where topics/questions will be used to prompt students for short 2-3 minute discussions amongst 3-5 students. Groups will then be called upon to provide explanation and lead into a broader classroom discussion/lecture.

Grading

Grading will be based on quizzes and exams only:

	WEIGHT
Exam 1 (Midterm)	25%
Exam 2 (Final)	25%
Quizzes	50%
TOTAL	100%

Grading Scale

I use a +/- scale for assigning letter grades, shown below. Depending on class performance, I reserve the right to adjust the scale *downward*. It will never be adjusted upward.

Letter Grade	Percentage Range (%)	Equivalent GPA (4.0 scale)
A	90 – 100	4.00
B	80 – 89	3.00
C	70 – 79	2.00
D	60 – 69	1.00
F	Below 60	0.00

Exams

There is one in-class midterm exam (Date TBD). The final exam is cumulative, although it is weighted toward topics covered after the midterm. Exams can only be made up with an official university-excused absence.

Electronic devices (of any kind) may not be used during exams. The use of such devices will result in a failing grade for the exam. Please arrange your schedule so that you do not miss any of the exams. Make up exams will only be permitted for students with an officially authorized absence. This includes the final! Note that the University administration may revise the date and/or time of the final exam. If you have a valid excuse to explain why you cannot attend an exam, e.g., documented illness, court appearance, participation in an official UW sports event, please present it to the instructor well in advance. Please let me know immediately (now) if you are a University athlete or sportsperson and anticipate being frequently absent from either regular class meetings or examinations, and provide me with the travel schedule for athletic events of relevance.

Homework and Quizzes

No homework! Short quizzes however (5-10 minute) will be administered once a week online via Canvas; these will be short reviews of the material covered during the week. They will be made available following class on Friday and you will typically have until midnight on Sunday to complete the quiz.

Attendance and Class Participation

Attendance will not be taken, although it is strongly encouraged that students do not miss class. Students must contact the instructor as soon as appropriate regarding absences, especially if they coincide with a quiz, or exam. **I have a zero tolerance late policy otherwise!!!!!!!!!!!!**

Academic Freedom and Institutional Discrimination: UW Regulation 2-15 on Academic Freedom states, "Academic freedom in teaching protects the rights of Academic Personnel to teach according to their expertise. Academic Personnel are entitled to freedom in discussing their subject. Academic Personnel have a responsibility to ensure that their teaching is effective and consistent with the standards of the discipline, understanding that disciplines may have diverse points of view on any given subject. Teaching may involve controversial material; however, with academic freedom in the classroom, Academic Personnel also have the responsibility to respect others' freedom to express disagreement and alternate opinions." Additionally, "Academic freedom does not negate the rights of students and the public to disagree with Academic Personnel's work, although students are expected to learn material with which they may disagree." Also adopted by UW in its Academic Freedom policy, "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."

Classroom Statement on Diversity: The University of Wyoming values an educational environment that supports students of all backgrounds and viewpoints. Diversity of viewpoints is considered a resource for learning. Topics may be difficult, not only intellectually but emotionally; however, discussions are essential to meeting the course's student learning outcomes and assisting students in developing problem-solving and critical-thinking skills. During all conversations, respect and civility are of utmost importance.

Disability Support: Insert a statement referring to [reasonable accommodations provided by University Disability Support Services](#).

The University of Wyoming is committed to providing equitable access to learning opportunities for all students. If you have a disability, including but not limited to physical, learning, sensory or psychological disabilities, and would like to request accommodation in this course due to your disability, please register with and provide documentation of your disability as soon as possible to Disability Support Services (DSS), Room 109 Knight Hall. You may also contact DSS at (307) 766-3073 or udss@uwyo.edu. It is in the student's best interest to request accommodation within the first week of classes, understanding that accommodations are not retroactive. Visit the DSS website for more information *at:* www.uwyo.edu/udss.

Academic Dishonesty Policies:

Academic dishonesty will not be tolerated in this class. Cases of academic dishonesty will be treated in accordance with UW Regulation 2-114. The penalties for academic dishonesty can include, at my discretion, an "F" on an exam, an "F" on the class component exercise, and/or an "F" in the entire course. Academic dishonesty means anything that represents someone else's ideas as your own without attribution. It is intellectual theft – stealing - and includes (but is not limited to) unapproved assistance on examinations, plagiarism (use of any amount of another person's writings, blog posts, publications, and other materials without attributing that material to that person with citations), or fabrication of referenced information. Facilitation of another person's academic dishonesty is also considered academic dishonesty and will be treated identically.

AI Technology:

Students are not permitted to use advanced automated artificial intelligence or machine learning tools on assignments in this course. Each student is expected to complete each assignment (quizzes and exams) without substantive assistance from others, including automated tools.

Duty to Report:

UW faculty are committed to supporting students and upholding the University's non-discrimination policy. Under Title IX, discrimination based upon sex and gender is prohibited. If you experience an incident of sex- or gender-based discrimination, we encourage you to report it. While you may talk to a faculty member, understand that as a "Responsible Employee" of the University, the faculty member **MUST** report information you share about the incident to the university's Title IX Coordinator (you may choose whether you or anyone involved is identified by name). If you would like to speak with someone who may be able to offer privacy or confidentiality, there are people who can meet with you. Faculty can help direct you or you may find info about UW policy and resources at <http://www.uwyo.edu/reportit>

You do not have to go through the experience alone. Assistance and resources are available, and you are not required to make a formal complaint or participate in an investigation to access them.

Finally, know that if, for some reason, our interaction involves disruptive behavior or potential violation of policy, I inform the Dean of Students, even when you and I may have reached an informal resolution to the incident. The purpose of this is to keep the Dean apprised of any behaviors and what was done to resolve them.

Green Dot Program at UW: Here at The University of Wyoming, we are committed to reducing and preventing power-based personal violence such as sexual assault, relationship violence, and stalking. Green Dot is a bystander intervention program to reduce these forms of violence with one thought; If everyone does one thing, no one will have to do everything. A Green Dot is your choice at any moment to make campus safer by promoting safety for everyone and letting others know that you will not tolerate violence. A Green Dot is any behavior, choice, word or attitude that sends a clear message that: 1. Violence is not okay with you, and 2. Everyone is expected to do their part.

Additional information on Green DOT training and resources are available at:

<http://www.uwyo.edu/greendot/>

All deadlines, requirements, and course structure are subject to change if deemed necessary by the instructor. Students will be notified verbally in class, on our WyoCourses page announcement, and via email of these changes.

Daily or weekly schedule of topics, activities, and graded work: You may include a schedule with the syllabus or distribute it separately on WyoCourses or other electronic means.

DISABILITY SUPPORT SERVICES: udss@uwyo.edu, 766-3073, 109 Knight Hall,
www.uwyo.edu/udss COUNSELING CENTER: uccstaff@uwyo.edu, 766-2187,
766-8989 (After hours), 341 Knight Hall, www.uwyo.edu/ucc
ACADEMIC AFFAIRS: 766-4286, 312 Old Main,
www.uwyo.edu/acadaffairs
DEAN OF STUDENTS OFFICE: dos@uwyo.edu, 766-3296, 128 Knight Hall,
www.uwyo.edu/dos
UW POLICE DEPARTMENT: uwpd@uwyo.edu, 766-5179, 1010 E. Iverson Street,
www.uwyo.edu/uwpd
STUDENT CODE OF CONDUCT WEBSITE: www.uwyo.edu/dos/conduct
UW TUTORING RESOURCES: <https://www.uwyo.edu/step/index.html>

“Tentative” Course Schedule

- Week 1:
Syllabus, Introduction, Properties of Atmosphere (**Chapter 1**)
Quiz #1
- Week 2:
Meteorological Measurements (**Chapter 2**)
Weather Maps (**Chapter 3**)
Quiz #2
- Week 3:
Forces and Force Balances (**Chapter 7**)
High and Low Pressure Systems (**Chapter 8**)
Quiz #3
- Week 4:
Airmasses and Fronts (**Chapter 9**)
Quiz #4
- Week 5:
Freezing Precipitation and Ice Storms (**Chapter 12**)
Lake-Effect Storms (**Chapter 13**)
Quiz #5
- Week 6:
Cold Waves (**Chapter 14**)
Great Plains Blizzards (**Chapter 15**)
Quiz #6
- Week 7:
Mountain Snowstorms (**Chapter 16**) (*Mon-Wed*)
MID TERM EXAM (*Fri*)
- Week 8:
Mountain Windstorms (**Chapter 17**)
Atmospheric Stability (**Chapter 6**)
Quiz #7
- Weeks 9:
Thunderstorms (**Chapter 18**)

Quiz #8

Week 10:

Tornadoes (**Chapter 19**)

Quiz #9

Week 11:

Hailstorms (**Chapter 20**)

Quiz #10

Week 12:

Lightning (**Chapter 21**)

Downbursts (**Chapter 22**)

Quiz #11

Week 13:

Hurricanes/Tropical Cyclones (**Chapter 24**)

Quiz #12

Week 14:

Historic Weather Events

Review for Final