

Course Syllabus

Welcome to Atm Sci 109 (Online)
Thunderstorms, Tornadoes, and Hurricanes!
Summer 2024: May 28 - August 17

Instructor: Professor Jon Kahl

Office: GLRF 3003B (though this irrelevant, as the course is online and I'll rarely be in my office)

Phone: N/A

E-mail: kahl@uwm.edu (please use e-mail for any questions specific to you; please use the discussion forums for more general, course content questions)

Office Hours: I won't be holding regular office hours, but will check my email often. Please contact me by email.

Course Prerequisites: None

Course Description

Overview: Atm Sci 109 is an introductory level course which discusses phenomenology and dynamics of various exciting severe weather phenomena, including tornados and hurricanes. It is a one-term course for students majoring in business, engineering, the life and social sciences, and the liberal arts, and for prospective teachers. The course provides a brief introduction to the composition, structure, energetics, and circulation of the atmosphere, as well as to the analysis of weather systems. This is followed by an in-depth examination into the physical principles and phenomenology of severe weather events. The course introduces the scientific method and emphasizes the importance of meteorology in the modern world.

Modules: There are **fifteen modules** for the course, each of which is followed by a quiz. Most modules consist of a powerpoint document and supplemental material. The powerpoint document contains the principle content of each module. **The modules will become available on May 28.**

Quizzes: Students may take each quiz up to three times; the final score is given after each attempt. (Please note: when you retake a quiz you may not get the same questions!) The highest score of the three is the only one that counts toward your final course grade. Completing a module's quiz, as well as viewing the module content, is the prerequisite for the next module. In other words, **you won't be able to advance to the next module without taking the previous module's quiz. Your final course grade will be determined by the average of your highest 14 quiz scores.**

Course pacing. This is a self-paced course! You must complete 15 modules in the 12 weeks of our summer semester. Please plan on completing 1 or 2 modules per week to avoid getting behind! Completing a module consists of viewing the content and taking the quiz. You'll likely need several hours or more to complete each module, so please plan your time accordingly.

The modules must be completed sequentially. For example, you must view the Module 1 content and take the Module 1 quiz before you can begin Module 2. **You may work ahead if you wish, as long as you complete the modules sequentially.**

Discussion Forums (optional, not graded): Each module has a discussion forum, which is considered the online equivalent of raising your hand in class. Posting comments in the discussion forums is not required, however it is a useful and convenient way to (a) get your questions answered, (b) offer input to other students' questions/comments, and (c) benefit from seeing the answers to questions you never thought to ask. I will check the discussion forums frequently, and I recommend that you review a module's discussion forum before taking that module's quiz.

Comments in the discussion forums can refer to a **confusing aspect of the module** (example: "Clouds are made of liquid water or ice, both of which are heavier than air. Why don't they fall out of the sky?"), **observations** (example: "Did anyone see the thunderstorm yesterday afternoon in Milwaukee? It grew so fast, you could almost feel the CAPE."), **resource suggestions** (example: "Has anyone checked out the Weather Underground blog at <https://www.wunderground.com/cat6> - lots of cool topics!") or **responses to other students' posts** (example: "Yes! The August 29 blog about the trustworthiness of tropical cyclone models really helped me understand the part of the Module 14 powerpoint about forecasting tropical cyclones.") **All discussion forums are open for the entire semester.**

Course Grading

Grading: Module Quizzes 100%.

Grading Scale:

A 90.00-100% **A-** 86.50-89.99% **B+** 83.00-86.49% **B** 76.00-82.99%

B- 72.50-75.99% **C+** 69.00-72.49% **C** 65.00-68.99% **D** 60.00-64.99%

F 0-59.99%

Additional Information

"Attendance": Time spent working on the material will not be part of the grading. The course is self-paced, however I will monitor your progress and will provide a friendly e-mail reminder if I feel you are running the risk of not completing the course by the end of the term.

Time Investment: This is a three-credit course. The amount of time that an *average* student should expect to spend on this class is as follows...

- Time spent studying modules: 60 hours
- Time spent exploring supplemental material: 54 hours
- Time spent completing quizzes: 15 hours (1 hour per module)
- Time spent commenting on discussions: 15 hours (1 hour per module)

Overall Time Spent on This Class: 144 hours

Text: None required. If you would like more background (particularly for the first four modules), a good text is *Meteorology: Understanding the Atmosphere (4th Edition)* by S. Ackerman and J. Knox. This is a standard text that is used in many introductory meteorology courses, including here at UWM. Used editions of this text are inexpensive online. Several copies are available on reserve, under Atm Sci 100, at the UWM Library. *Divine Wind* by Kerry Emanuel provides an up-to-date, easily accessible read on hurricanes, and is a good choice for those who want to go beyond the course material.

General Education Requirement Documentation

This course carries Natural Sciences General Education Requirement designation. Thus, upon successful completion of this course, you will at a minimum be able to (1) understand and apply major concepts of a natural science discipline, including its breadth and its relationship to other disciplines and (2) explain and illustrate the relationships between experiments, models, theories and laws. In so doing, this class addresses University of Wisconsin System Shared Learning Goal #5, "Individual, Social, and Environmental Responsibility including civic knowledge and engagement (both local and global), ethical reasoning, and action." Your performance on course module quizzes and the final report will be used to assess these criteria and goals.

Complaints and Accommodations

Disability: Students with special needs have access to educational opportunities equal to those of non-special needs students. To ensure that reasonable accommodations can be made for students with special needs each student must identify themselves in a timely manner, preferably prior to the beginning of a term. However, if students are unsure of eligibility to receive accommodations and have not discussed this with a university representative, students should discuss these concerns with their instructor or advisor as early as possible.

Religious Observances: Students will be allowed to complete examinations or other requirements that are missed because of religious observance.

Academic Misconduct: The University has a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are responsible for the honest completion of and representation of their work, for the appropriate citation of sources, and for the respect of others' academic endeavors. Further information may be found at <https://uwm.edu/deanofstudents/academic-misconduct-2/>.

Complaint Procedures: Students may direct complaints to the Atmospheric Science Program Chair (Prof. Clark Evans, GLRF 3003C, evans36@uwm.edu) or School of Freshwater Science Dean (Prof. Rebecca Klaper, GLRF 1003, rklaper@uwm.edu). If the complaint concerns a violation of a stated university policy, it may be directed to the head of the department or academic unit in which the complaint occurred or to the appropriate university office responsible for enforcing the policy.

Grade Appeals: A student may appeal a grade on the grounds that it is based on a capricious or arbitrary decision of the course instructor. Such an appeal shall follow the established procedures adopted by the department, college, or school in which the course resides. These procedures are available in writing from the department chairperson or Academic Dean.

Sexual Harassment: Sexual harassment is reprehensible and will not be tolerated by the University. It subverts the mission of the University and threatens the careers, educational experience, and well-being of students, faculty, and staff. The University will not tolerate behavior between or among members of the University community that creates an unacceptable working environment. Further information can be found at <https://uwm.edu/titleix/>.