

FOUNDATIONS OF ATMOSPHERIC SCIENCE II

ATMS 204

SPRING 2025

This is the second course in a two-course sequence designed for atmospheric sciences majors that introduces basic meteorological, mathematical, and computational concepts, skills, and tools that are critical for advanced study in the atmospheric sciences. Once you complete the two-part series, you will have an excellent foundation for success in your meteorological studies. Ask lots of questions and enjoy!



PROFESSOR

Dr. Christopher Godfrey

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Office hours: **2:00–3:00 p.m. Tuesdays and 1:30–2:30 p.m. Thursdays**, or by appointment. You may call my office (it bounces to my cell phone) during regular business hours. You may send me as many email messages as you wish. If my door is open at any other time, please drop in.

CLASS INFORMATION

Meeting times: R 3:15–5:45 p.m.

Location: Robinson Hall, room 209

Required text: None.

Website: <https://www.atms.unca.edu/cgodfrey/courses/atms204/>

» Please visit <https://weather.unca.edu> for a list of the student learning outcomes for the Department of Atmospheric Sciences.

COURSE SCHEDULE

This course schedule is approximate and subject to modifications.

Date	Week	Topic	Lab Exercise Due Date
16 January 2025	—	No class: AMS Annual Meeting	—
23 January 2025	1	Gradients	30 January 2025
30 January 2025	2	Advection	6 February 2025
6 February 2025	3	Vorticity	13 February 2025
13 February 2025	4	Divergence	20 February 2025
20 February 2025	5	The Continuity Equation	27 February 2025
27 February 2025	6	The Governing Equations	6 March 2025
6 March 2025	7	Balanced Flow (remote class)	20 March 2025
13 March 2025	—	No class: Spring Break	—
20 March 2025	8	The Thermal Wind	27 March 2025
27 March 2025	9	Introduction to Python	3 April 2025
3 April 2025	10	Introduction to Fortran	10 April 2025
10 April 2025	11	AWIPS II	17 April 2025
17 April 2025	12	Remote Sensing: Satellites	24 April 2025
24 April 2025	13	Remote Sensing: Radar	6 May 2025 @ 2 p.m.

GETTING QUESTIONS ANSWERED

I will be either in my office or available on Google Meet during scheduled office hours (find the QR code on my door). Just drop in. If at any other time you have a question and my office door is open, you are more than welcome to visit. Otherwise, email is by far the best way to reach me and you will usually get a speedy reply. You may also schedule an appointment with me. Please don't hesitate to ask questions about class, other coursework, or the stresses of college life whenever the need arises.

EVALUATION

Your progress is evaluated based solely on the grades for each of the lab exercises. There are no exams or quizzes. **Lab assignments are due via Moodle at 3:00 p.m.** on the date listed in the syllabus unless otherwise noted. The *only* exceptions to this rule are: (1) serious medical condition (illness or injury) of you or an immediate family member; (2) University excused absence; (3) jury duty; or (4) military orders. Only in such instances will a grade penalty be waived for a late assignment. I will accept completed lab assignments up to 24 hours late (3:00 p.m. the following day) for a 50% late penalty. *Assignments more than 24 hours late will not be graded.* In the event of an unforeseen circumstance that causes you to miss a due date, *you must notify me by phone or e-mail within 24 hours of the event.* Appropriate documentation should be attached to a late assignment. Please review the guidelines for submitting homework, available on Moodle, prior to submitting your first assignment.

GRADING

The grades that you earn on each of the 13 individual weekly exercises will each contribute equally to your final grade. I reserve the option to curve the final grades upward at my discretion. However, you are guaranteed *at least* the following based on your final score before applying any curve:

A	≥92.0%	C	72.0–77.9%
A-	90.0–91.9%	C-	70.0–71.9%
B+	88.0–89.9%	D+	68.0–69.9%
B	82.0–87.9%	D	60.0–67.9%
B-	80.0–81.9%	F	<60.0
C+	78.0–79.9%		

Final grades are not negotiable. If you see a problem with a grade, you may plead your case no later than 14 days from the date I return the assignment to the class. I do make mistakes. Under no circumstances will your grade be *lower* if you see me with a question.

ACADEMIC INTEGRITY

Since the point of this or any class is to learn, you may collaborate on lab assignments, but *you absolutely must make sure that you hand in your own work and that you understand the material.* Copying your friend's answers will not only be obvious to me, but will result in both of you sharing the credit for that answer. For example, if you do a fantastic job on the lab assignment and then let three of your friends copy *any part of it*, you will each receive a maximum grade of 25% for the assignment. I have zero tolerance for academic misconduct and will deal with the problem by immediately filing charges through the regular University channels.

COMPUTERS IN THE CLASSROOM

We will make extensive use of the computers in the classroom. I ask that you please refrain from using the computers for anything other than academic purposes related to the class. This means that Facebook, Instagram, email, sports scores, and even weather updates must wait until after class. Inappropriate and distracting mouse clicks will earn you an invitation to leave the room. With the exception of laptops that are used specifically and exclusively for class, all personal electronics, *including cell phones*, must remain silenced and stowed out of sight at all times.

NOTES

The University of North Carolina Asheville is committed to making courses, programs and activities accessible to persons with documented disabilities. Students requesting accommodations and/or academic adjustments must do so through the Office of Academic Accessibility and may be required to provide supporting documentation. All information provided will remain confidential. For more information, please contact the Office of Academic Accessibility at (828) 232-5050 or academicaccess@unca.edu or visit them in the Academic Success Center.

PANDEMIC ADDENDUM

Students who attend class in-person instead of virtually tend to earn better grades. Yet common illnesses and new variants of the COVID-19 virus still circulate, and I want this and every classroom to be a safe and healthy place for everyone. Please always demonstrate respect for yourself, your classmates, your professor, and their families and friends. If you have been exposed to COVID-19, influenza, RSV, or any other illness (i.e., someone you have been around within the last three days has tested positive or displayed obvious symptoms), tested positive yourself within the past five days, or have any symptoms (e.g., fever, runny nose, congestion, sore throat, lethargy, etc.) please **DO NOT COME TO CLASS**. You can participate remotely via Zoom if you let me know of your need for a remote connection prior to 2:00 p.m. on the day of class. There will be *no penalty* if you need to participate remotely to promote safety!