

INTRODUCTION TO METEOROLOGY

ATMS 103.003

Fall 2024

Course Description: By the end of this course, you will understand why the weather changes as it does and draw connections between severe weather and its impacts on people's daily lives. We will look at the structure of the atmosphere, the variables that produce weather, and severe weather systems including hurricanes, tornadoes, and thunderstorms.

Class Meetings: TR 1:20–2:35 p.m. in RRO 239
Credit hours: 3

GENERAL INFORMATION

Professor

Dr. Caitlin Crossett

Office: RRO 251

Phone: 828.250.3888

Email: ccrosset@unca.edu

Office Hours: M 2–3 p.m., and
TuTh 10–11 a.m. or by appointment:

<https://calendly.com/ccrosset>

Suggested Text: Ahrens, C. D., and R. Henson, 2017: *Essentials of Meteorology: An Invitation to the Atmosphere*. 8th ed. Cengage Learning, ISBN-13: 978-1305628458.

Webpage: The course page on Moodle will provide lecture slides, announcements, assignments, and sources of additional information. Please get in the habit of checking it frequently.

This course satisfies the scientific perspectives requirement within the Liberal Arts Core (LAC). When combined with ATMS 111, this course satisfies the laboratory science requirement within the LAC. Visit <http://www.atms.unca.edu/slos.shtml> for a list of the student learning outcomes for the Department of Atmospheric Sciences.

ASSIGNMENTS

In-Class Exercises: Throughout the semester active-learning exercises will be completed during class meetings. These exercises are a chance for you to practice course material right after you learn it and ask your peers and your instructor questions. If you complete 80% of in-class exercises you receive 12% of your course grade. In-class exercises should be submitted via a photo on Moodle and are due before the class meeting after they are completed in class.

Homework: Homework questions will relate principles learned in class to different circumstances to build mastery of course material. You are encouraged to work with other students on homework, but you must turn in your own work. Even if you don't get the correct answer you will get partial credit for showing your work.

Quizzes: Quizzes will be administered on Moodle to assess how well you are understanding course concepts before you may encounter them on an exam. Your lowest quiz grade will be dropped.

Exams: Three exams will be given in this course and will primarily cover material up to that exam. While exams are not cumulative, topics in this course do build upon each other, therefore, reviewing

course material throughout the semester will be beneficial to you in this course. You are expected to take the exams during the scheduled time unless other accommodations (i.e., University sponsored events, religious observances) have been cleared through me before the exam.

UnEssay Project: Your final project in this class is an UnEssay. This multi-week research assignment gives you an opportunity to use the atmospheric science principles you'll learn through this class to create a work of science communication. More information is in the UnEssay project instructions.

Course Work	% of Grade
Quizzes	7%
Homework	30%
In-Class Exercises	12%
Exam #1	12%
Exam #2	12%
Exam #3	12%
UnEssay Project	15%

A	92–100	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		

COURSE EXPECTATIONS

Tips for Success: You will succeed in this course if you come to class meetings willing to learn and be engaged, have a sense of curiosity, and do your best! Your success in this course is tied to attending lectures regularly, submitting assignments, and keeping up with course content. My goal is that you come out of this course having learned something new and developed new skills along the way. Perfection is not an expectation!

Late Work: I will accept homework after the due date with a 10% per day late penalty. As life happens and interferes with deadlines, each student will receive one life-token (i.e., 48-hour extension) on a homework assignment for no penalty, no questions asked. You must let me know that you are planning on taking your life token in advance of the due date for the homework assignment. Make up exams will be given in circumstances that require it (i.e., University sponsored absence, religious observation, sickness). You must ask for a make-up exam before class time on the exam day.

Academic Honesty/ Artificial Intelligence Tools Policy: Any act of plagiarism, cheating, or use of unauthorized material or assistance is academic dishonesty. A person who knowingly assists another in cheating is likewise guilty of cheating. I expect that you will exercise integrity on all quizzes, exams, and written assignments. Using an AI-content generator such as ChatGPT to complete assignments without proper attribution violates academic integrity. By submitting assignments in this class, you pledge to affirm that they are your own work and you attribute use of any tools and sources (guides to citing AI tools can be found [here](#)). Approved uses of ChatGPT are limited to: Brainstorming ideas, fine tuning research questions, assistance with coding (i.e., finding bugs), and locating supporting information such as journal articles and web pages. If you are unsure if a specific use of ChatGPT is approved, please email, or come talk to me.

Technology Use: You may use laptops or tablets during class to take notes, but you may not use them for watching TV, doing work for other classes, or anything else not related to course

discussion. Doing so not only distracts you from your learning but it could also distract your peers. If you have accommodations through the Office of Academic Accessibility (accessibility.unca.edu) for electronics use during class, please come talk to me.

Communication: I will primarily contact you about course information through email or Moodle so please get in the habit of checking both every day! Therefore, email is also the best way to reach me with any questions/comments/concerns (ccrosset@unca.edu). I will monitor email from 8a.m.–5p.m. during the work week and intermittently outside of these hours and during the weekend.

Respectful Classroom Environment: I ask that everyone be respectful of other students, the instructor, and any guest presenters while in class. Just as you expect others to actively listen to your diverse set of thoughts and perspectives, I ask that you do the same.

UNIVERSITY RESOURCES

Accessibility: UNC-Asheville values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to this class should let the professor know, and/or make an appointment to meet with the Office of Academic Accessibility as soon as possible. To make an appointment, call 828.232.5050 or email academicaccess@unca.edu. Learn more about the process of registering, and the services available through the Office of Academic Accessibility here: accessibility.unca.edu

University Writing Center: The University Writing Center, in the library, offers free, one-on-one sessions with student writing consultants—both in-person and online. We work with writing at every stage of the writing process, from brainstorming to polishing, in a judgment-free environment. To make an appointment, visit writingcenter.unca.edu.

Math Lab: Staffed with qualified tutors, the Math Lab is here to support you in math! If you are in any course that involves math you can drop into the Math Lab on the third floor of Robinson Hall (RRO 323) anytime during the hours listed on this website: <https://math.unca.edu/learn/math-lab/>.

Mental Health Support: As a student, you may experience a range of challenges that can interfere with learning, such as stressful life events, experiences of anxiety and/or depression, self-harm, substance use, and/or unusual difficulty with ordinary life activities. The increased stress of school can also make existing mental health struggles more difficult to manage. Support is available and treatment can help. Learn more about the confidential mental health services UNC Asheville provides to support student success at <https://www.unca.edu/life/health-counseling/>. The Health and Counseling Center is located at 118 W.T. Weaver Boulevard. Appointments can be made by calling 828-251-6520. A UNC Asheville counselor on call is available after 5 p.m. and on weekends; the counselor on call can be accessed by calling the UNCA Campus Police dispatcher at 828-251-6710. Additionally available after hours and on weekends, call the Bulldog Health Link at 1-888-267-3675, where you can get immediate support for mental health, medical consultation, concern for a friend, and/or community resources. In case of an emergency, you can also call RHA's Mental Health Mobile Crisis Unit at 1-888-573-1006.

COURSE SCHEDULE (subject to change) – ATMS 103 – Fall 2024

Week	Date	Topic	Reading	Assignment
1	20-Aug	Introduction/ The Earth's Atmosphere		
	22-Aug	The Earth's Atmosphere/ Warming the Earth and Atmosphere	Chapter 1, 2	Quiz; Fill out groupwork survey
2	27-Aug	Warming the Earth and Atmosphere		
	29-Aug	Air Temperature	Chapter 3	Quiz
3	3-Sep	Air Temperature		HW1
	5-Sep	Humidity, Condensation, and Clouds	Chapter 4	Quiz; UnEssay Proposal
4	10-Sep	<i>Visit from Librarian; Bibliography & Work Day</i>		Bibliography Module
	12-Sep	Humidity, Condensation, and Clouds		Quiz
5	17-Sep	Cloud Development and Precipitation	Chapter 5	HW2
	19-Sep	Cloud Development and Precipitation		UnEssay Proposal Peer Review
6	24-Sep	EXAM #1		
	26-Sep	Cloud Development and Precipitation		
7	1-Oct	Air Pressure and Winds	Chapter 6	Quiz; UnEssay Bibliography
	3-Oct	Air Pressure and Winds		
8	8-Oct	Fall Break - NO CLASS		
	10-Oct	Air Pressure and Winds		Quiz
9	15-Oct	Atmospheric Circulation	Chapter 7	
	17-Oct	Atmospheric Circulation/ Air Masses and Fronts	Chapter 8	Quiz; HW3
10	22-Oct	<i>Effective SciComm & Work Day</i>		SciComm Module
	24-Oct	Air Masses and Fronts		Quiz
11	29-Oct	EXAM #2		
	31-Oct	Air Masses and Fronts		
12	5-Nov	Mid-Latitude Cyclones		Quiz; UnEssay Storyboard
	7-Nov	Mid-Latitude Cyclones		HW4
13	12-Nov	Thunderstorms and Tornadoes	Chapter 10	Quiz
	14-Nov	Thunderstorms and Tornadoes		
14	19-Nov	UG Research Symposium - NO CLASS		
	21-Nov	Hurricanes	Chapter 11	
15	26-Nov	Hurricanes		Quiz; HW5
	28-Nov	Thanksgiving Break - NO CLASS		
16	3-Dec	UnEssay Reflection Presentations		UnEssay Project & Presentations
Thursday	5-Dec	11:30a.m. - 2:00 p.m.: EXAM #3		

Assignments are due on the day they are listed unless otherwise noted.