

EVSC 1300—Earth's Weather and Climate—Spring, 2023

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Office Hours

Monday, 2:30–4:00 p.m.
Thursday, 10:30–11:30 a.m.
or by appointment

Home Page: <http://climate.evsc.virginia.edu/evsc-1300>

COURSE OUTLINE

Required Text: Meteorology Today (12th edition) by C. Donald Ahrens & Robert Henson, Cengage Learning, MindTap (you must use the MindTap version, which you can access via Collab). If you wish to also buy the physical textbook, you can do so at a deeply discounted rate after you purchase MindTap (see below). You should find used copies and you may also use earlier editions.

***** NOTE FROM UVA BOOKSTORE *****

Welcome to **EVSC 1300!** This course will take part in a new inclusive access program with The UVA Bookstore providing your course material at a low price.

ALL students enrolled in the class will have immediate access to your digital course materials through UVACollab for the first 2 weeks of class—for free. **After February 2nd**, your student account will be charged **\$73.29 for *Meteorology Today: An Introduction to Weather, Climate, and the Environment (with MindTap)***. This program is optional for students, but you must actively opt out by the deadline to not be charged. Additionally, you will lose access to your materials. Due to the special pricing, no refunds can be processed. This program aims to offer all students accessibility and affordability. If you have any questions regarding the program, please email us at **UVAInclusiveAccess@virginia.edu**.

There will be four in-class examinations during the semester. The exams will consist of objective-type multiple choice questions and will be administered on-line via Collab. You will need to bring your laptop to class on exam days. There will be no cumulative final exam.

Honor Policy: I trust every student will fully comply with all provisions of the UVA Honor System. In addition to pledging that you have neither received nor given aid while taking your exam, your online "signature" also affirms that you have not accessed any notes, study outlines, problem sets, old exams, answer keys, or the textbook while taking an exam and that you have not obtained any answers from another student. All alleged honor violations brought to my attention will be forwarded to the Honor Committee. If, in my judgment, it is beyond a reasonable doubt that you have committed an honor violation with regard to a given exam, you will receive an immediate grade of 'F' (zero points) for that exam, irrespective of any subsequent action taken by the Honor Committee. Furthermore, for this course, the use of exams from prior semesters (including EVSC 1300, EVSC 150, or EVSC 250) for any purpose, including preparation for an exam, is considered to be an honor violation.

Grading: Your grade will be based on the points you accumulate from two sources: the four exams and on-line exercises associated with the readings from each chapter (via UVA Inclusive Access). Each of these will be worth 30 points (4 exams @ 30 points each plus the on-line exercises scaled to be worth 30 points). I will drop the lowest of these five grades, so your final course grade will be based on your highest point total from the best four out of five sources. That means that you can skip one exam or choose not to do the on-line exercises and still complete the requirements for the course. The best strategy is to do the exercises and to take all four exams so you will have one grade to drop. (FYI, the median grade on the on-line exercises is always higher than the median grade on any of the exams, so for most of you, doing these on-line exercises will provide a chance to raise your course grade.) Each exam will be worth 30 points, so your maximum total points for the semester is 120.

Your final grade will be based on the total points you receive from your four best sources. Final grades will be curved in your favor if a curve is warranted. In no case will I ever curve the grades to your detriment—in this course, the curve only serves to potentially raise your final course grade.

Please put the following exam dates on your calendars and plan your study and social schedules accordingly.

Exam #1: Wednesday, February 8

Exam #2: Wednesday, March 15

Exam #3: Wednesday, April 5

Exam #4: Monday, May 1

Extra Credit: There will be numerous different opportunities for you to earn extra credit this semester. Importantly, any extra credit points that you accumulate will be applied after the final grades are curved. For example, if you end up with 85 points on the exams and A minus begins at 87, with two bonus points you will raise your final course grade from B plus to A minus.

In class, on an occasional basis, we will be doing group exercises, and I will be recording your responses using software provided by Learning Catalytics. Although this is not required, I very strongly encourage everyone to participate by setting up an account by going to the “learningcatalytics.com” website on your laptop, phone, or tablet. There is a relatively small cost, and you’ll need a credit card to make the payment. For every response to class questions, you’ll receive 1/3 of an extra credit point that will be applied at the end of the semester. (If you are already using Learning Catalytics in a different class, you do not need to sign up for a new account.)

In addition, I will be provided some optional, sample questions periodically to summarize topics we’ve been covering in class. If you get all of the questions correct in these exercises, you will earn 1 extra credit point; if you miss only one question, you will get 0.5 point. Therefore, through class participation/attendance and attempting these sample questions outside of class, you will be able to boost your final course grade. Individual extra credit for additional work is not available to anyone in this course under any circumstance.

Other Important Dates:

Add deadline: February 1

Drop deadline: February 2 (everyone but SEAS)

SEAS drop deadline: March 1

Class cancelled: March 3

Withdraw deadline (drop with "W"): March 15

(You may take this course under the credit/no credit option. Before making this decision, check with your academic advisor regarding the acceptability of this option for your major. A grade of D- or higher is needed to receive credit.)

Class Rules

- 1) email: All of my communication with you outside of class will be via your UVa email account (or whatever is linked via Collab). If you are not a frequent email user, plan to log on at least once daily.
- 2) Collab: You will take your exams on Collab and I will likewise use Collab to post your grades. You will also find assignments and Powerpoint slideshows on Collab.
- 3) Website: The class website will be used to access external links on the internet associated with various lecture topics and weather discussions. Please add this link now to your favorite web browser: climate.evsc.virginia.edu/evsc-1300
- 4) Electronic devices: There is a growing body of evidence that students who take notes using their computers, etc. get lower grades than students who take notes by hand. However, I know that some of you strongly prefer to use your laptops. If you wish to do so, you must turn off all distractions (e.g., Tiktok, Twitter, email, etc.) before class starts. All cell phones must be silenced before class. (If you have an emergency issue, set your phone to vibrate and if you get a call, quietly get up and leave class to take it.) Even phones on vibrate are distractions to your fellow classmates. Failure to follow this policy will result in me dropping you from the class...please respect me and your fellow students by obeying this policy.
- 4) Disruptive behavior: Please keep unnecessary talking to a minimum. This is a large class, and it is easy to become disengaged. Please do your best to focus for 50 minutes.

How To Do Well

Show Up: I do not teach from a textbook...this course has evolved in its current form based upon years of continuous revision and updates, trial and error. Attending class is the most important factor in getting a good grade. (IF YOU MISS CLASS, the best strategy is to get the lecture notes from at least two of your classmates, copy them, make note of any confusing material, and see me with any questions. I do not teach from a set of notes.)

Pay Attention: Showing up and not paying attention is effectively the same as not showing up at all, right?

Take Notes: Although I will provide you with my Powerpoint slides, everything that you need to know will NOT be on those slides. Pay particular attention to points that I emphasize in class. (Jokes or lame attempts at jokes will not be on the exam, but feel free to take notes on them if you are so inclined.)

Engage: Ask questions, provide examples, request clarifications. See me after class or during office hours. Send me emails (<https://medium.com/@lportwoodstacer/how-to-email-your-professor-without-being-annoying-af-cf64ae0e4087#.sroi79ro7>). In many cases, I will get back to you surprisingly quickly.

Prepare: Read the associated pages in the textbook (many students find it better to do so AFTER the lecture rather than before, but this varies from person to person). Do the assigned exercises. Review (and even rewrite) your notes—this is a great way to begin studying for exams well before the exam date.

Be Thorough: There are roughly eight lectures before each exam and 30-point exams, so on average you can expect four test questions to come from each lecture. The exams tend to be comprehensive. If there are topics that you do not understand, make every effort to figure them out prior to the test. Hoping that some topic will not be on the exam is not a smart strategy. I welcome your questions, emails, and office hour visits.

Summary: The workload for this class is not onerous and I think most of you will find the material to be interesting and useful for your daily life. If you keep up with the lectures and with reading the related chapters, you should do well. Try not to fall behind and let confusing topics fester by not asking questions.

A note about sickness

If you are sick, you have a responsibility to yourself and to your fellow classmates to stay home. I promise that I will not come to class if I am not feeling well. This is the appropriate behavior if you have COVID-19, influenza A/B, ebola, or any other communicable disease. Our species has managed to coexist with viruses for centuries and we will continue to do so. Please take personal responsibility for your health and the health of others.

READING ASSIGNMENTS/LECTURE SCHEDULE

Rather than assign specific pages in the book that correspond with the lecture topics, I merely refer you to the proper chapter (in parentheses in the schedule, below). Chapters numbers are linked to the 12th edition of the text. In the lectures, I will provide more specific page numbers for partial chapters. You are not responsible for material in the textbook that has not been covered in class. I will try to keep to this schedule, but I reserve the right to change topics depending on the pace of the class, unusual weather events, etc.

- Jan 18: Class organization, introduction, basic principles (Chapter 1)
 Jan 20: Basic principles, atmospheric pressure (1, 8)
- Jan 23: Weather and weather map basics, temperature, pressure (1, 8)
 Jan 25: Weather and weather map basics, temperature, pressure (1, 8)
 Jan 27: Atmospheric structure and composition (1)
- Jan 30: Earth/Sun geometry: reasons for the seasons (3)
 Feb 1: Basic principles of radiation (2)
 Feb 3: Global radiation: Balancing the books, the "greenhouse effect" (2)
- Feb 6: Global radiation: Balancing the books, the "greenhouse effect" (2)
Feb 8: EXAM 1
 Feb 10: Exam 1 review; Global warming and climate change (18)
- Feb 13: Global warming and climate change (18)
 Feb 15: Atmospheric humidity (4)
 Feb 17: Weather and human comfort (3, 4)
- Feb 20: Why do clouds form? (5, 6)
 Feb 22: A tutorial on cloud identification (5)
 Feb 24: Precipitation (7)
- Feb 27: Advanced cloud identification (5)
 Mar 1: Weather map symbology (Appendix B)
 Mar 3: Class is cancelled
- Mar 13: Air masses (11)
Mar 15: EXAM 2
 Mar 17: Exam 2 review; The Norwegian Cyclone Model (11, 12)

- Mar 20: The Norwegian Cyclone Model: Weather changes and fronts (11, 12)
- Mar 22: The Norwegian Cyclone Model: Weather changes and fronts (11,12)
- Mar 24: The Norwegian Cyclone Model: Weather changes and fronts (11,12)
- Mar 27: Basic principles of atmospheric motion (8)
- Mar 29: Global wind patterns (10)
- Mar 31: Cyclones and anticyclones (8)
- Apr 3: Monsoons, ocean currents (9, 10)
- Apr 5: EXAM 3**
- Apr 7: Exam 3 review; Climates of Earth (17)
- Apr 10: Climates of Earth (17)
- Apr 12: Local winds (9)
- Apr 14: Air quality (19)
- Apr 17: El Niño (10)
- Apr 19: Lightning (14)
- Apr 21: Thunderstorms and severe thunderstorms (14)
- Apr 24: Tornadoes (15)
- Apr 26: Hurricanes (16)
- Apr 28: Atmospheric optics (rainbows, halos, mirages, etc.) (20)
- May 1: EXAM 4**

Disability accommodations: If you anticipate or experience any barriers to learning in this course, please let me know. If you have a disability, or think you may have a disability, you may also want to meet with the Student Disability Access Center (<https://www.studenthealth.virginia.edu/SDAC>). If you have already been approved for accommodations through SDAC, please confirm that I have received this information.

Discrimination, Harassment, Violence, and Retaliation: Discrimination, harassment, and retaliation are defined in the University's Preventing and Addressing Discrimination and Harassment policy ("PADH Policy") and the

Preventing and Addressing Retaliation policy ("PAR Policy"). The PAR Policy not only prohibits retaliation against individuals who complain of discrimination and harassment under the PADH Policy, but also those who assist or participate in a resolution of such a complaint (e.g., an investigative witness). Students and employees who believe that they have been subjected to discrimination, harassment, or retaliation under the PADH and/or PAR Policy should contact the EOCR office. You may report discrimination, harassment, and retaliation to the University through "Just Report It" (justreportit.virginia.edu/) or by contacting the Office for Equal Opportunity of Civil Rights (EOCR) at (434) 924-3200 or UVAEOCR@virginia.edu to speak with a member of the EOCR team.

The UVa faculty and administration are committed to providing a safe and equitable classroom environment. The University prohibits discrimination, including sexual and gender-based harassment and violence, on the basis of sex, sexual orientation, gender, and gender identity or expression in all of its programs and activities, including academics, employment, athletics, and other extracurricular activities. For more information, please see: eocr.virginia.edu/title-ix, where you can also find information about procedures for resolving prohibited conduct. Those who believe that they, or someone else, have been subjected to the above forms of conduct are encouraged to contact the Title IX office at (434)-297-7988 or titleixcoordinator@virginia.edu. You may also report prohibited conduct through "Just Report It" or by contacting the Title IX office to speak with a member of the Title IX staff. The Title IX Policy and Procedures are also available at <https://eocr.virginia.edu/title-ix>.

In accordance with UVa policies, faculty are required to report any information disclosed by students regarding alleged acts of prohibited conduct to the Title IX Coordinator. "Confidential Employees" are exempt from this requirement, and they include various licensed professionals who are not bound to disclose. You can find a listing of them here: <https://eocr.virginia.edu/chart-confidential-resources>.

Final note: I promise to do my best to treat you as an individual with dignity and respect. By agreeing to take this course, you implicitly agree to abide by the rules set forth in this syllabus. My grading policy is entirely objective—I do not link names to grades when I am determining the grade distribution.

Thanks for taking this class—I'm looking forward to a fun and interesting semester!