

Instructor: Dr. Dorian J. Burnette
Office: 230, Johnson Hall
Phone: 901-678-4452
E-Mail: djbrntte@memphis.edu
Website: www.djburnette.com

Office Hours
11:30 a.m.-12:30 p.m. Mon-Wed
and by appointment

I encourage you to talk to me individually whenever you need to discuss your progress in the course or whenever you have a topic of special interest you want to discuss individually.

COURSE WEBSITE

elearn.memphis.edu (eCourseware)

COURSE TEXTBOOK

Required: *Understanding Weather and Climate*, 7th Edition, by Aguado and Burt

This textbook will be used in both lecture and in lab (i.e., there is not a separate lab textbook). You can purchase or rent a hard copy of the textbook in the bookstore, but an ebook is also available if you wish to purchase that instead of a hard copy. You do not need both. You can purchase the ebook online by registering as a student at the website below. You will also need the Course Name and Course ID given below.

- Ebook Website: www.pearsonmastering.com
- Course Name: Burnette ESCI 1010 Weather and Climate Fall 2023
- Course ID: burnette51516

ABOUT THE COURSE

This course surveys physical atmospheric processes and their geographic distributions. After going over the basics, which include: geographic distribution of radiation, moisture, pressure, and atmospheric circulation, we will explore how these processes interact with the global ocean and how they create weather systems and storms. The course also includes an introduction to Earth's various climates, how historical weather records and tree rings can be used to determine climates of the past, and an in depth look at climate change.

GRADES

Your grade at the end of the semester is completely determined from the total number of points earned. These points come from 1) Participation (Packback), 2) your best two out of three scores on the section exams, 3) your score on the comprehensive final exam, 4) your score on a term paper, 5) your final grade in the required lab section, and 6) any earned extra credit. Final grades will be determined from a total of 600 points:

Grade	Points Needed	Average Percentage
A	540	90%
B	480	80%
C	420	70%
D	360	60%

Participation (Packback):

Participation is a requirement for this course, and the Packback platform will be used for in-class questions and online discussion about class topics, where you can be fearlessly curious and ask open-ended questions to build on top of the topics we are covering in class and relate them to real-world applications. There will be a weekly deadline for submissions to the online community on Sundays at 11:59 p.m. Central Time. In order to receive full credit, you should submit the following per each deadline period:

- One open-ended question every week with a minimum curiosity score of 65
- Two responses every week with a minimum curiosity score of 65
- Any in-class questions
- Note: Half credit will be provided for questions and responses that do not meet the minimum curiosity score

You should get your account setup by 4 September 2023. An e-mail will be sent to your University of Memphis account from help@packback.co prompting you to finish registration. If you don't receive an email (be sure to check your spam), you may register by following the instructions below:

1. Create an account by navigating to app.packback.co and clicking "Sign up for an Account"
Note: If you already have an account on Packback you can log in with your credentials.
2. Then enter our class community's lookup key into the "Looking to join a community you don't see here?" section in Packback at the bottom of the homepage.

Community Lookup Key: 58db3758-1fde-40a8-917a-17779a3826d1

3. Follow the instructions on your screen to finish your registration.

Packback does have a cost of \$39.

If you have any questions or concerns about Packback throughout the semester, please read their FAQ at help.packback.co. If you need more help, contact their customer support team directly at help@packback.co.

For a brief introduction to Packback and why we are using it in class, watch this video:
www.youtube.com/watch?v=OV7QmikrD68

Out of the 600 total points possible in this course, 100 of those points will come from your participation grade (e.g., if you receive a 95%, then 95 points will be added to your final point total).

Exams:

Three section exams with 50 questions and one comprehensive final exam with 100 questions will be given. All exams are worth 100 points, so each question on the section exams is worth 2 points and each question on the final is worth 1 point. The lowest of the three section exam grades will be dropped, but all students are required to take the comprehensive final exam. These exams will consist of multiple choice, true/false, and matching questions. A study guide will be posted to course website one week before the scheduled date of the exam to give you an idea of the material that will be covered. The exams are online and open book/open note, but there is a time limit of 85 minutes for the section exams and 120 minutes for the final exam. Thus, it is highly recommended that you go over the study guide material prior to starting the exam. Exams will be available for one week (see schedule below), so you will be able to pick a time to complete them.

Exams can be made up, but you must have a legitimate, verifiable, and an unavoidable reason. If you know you are going to be absent, then please make arrangements for a makeup before the exam. If you miss an exam because of an unforeseen emergency, arrangements to make it up must be made as soon as you return to campus. Please note that while makeup exams will be in the same format and cover the same material, they may not ask the same questions. The last day to makeup an exam is Study Day, 7 December 2023.

Term Paper:

Honors students will perform an extra project during the semester and write up the results. Keep in mind you are enrolled in an honors section, so failure to complete the term paper will negatively impact your grade. Complete details about the required term paper are on the course website. The term paper is worth 100 points and is due on 3 November 2023. Late term papers will be accepted through Study Day, 7 December 2023, but they will be subject to a grade reduction of 2 points per day late.

Labs:

ESCI 1010 is a 4-hour course where a part of your grade comes from the lab. Therefore, enrollment in a lab section is required. You will receive one final grade for the entire course (i.e., lecture + lab combined). Lab sections are graded independently from the lecture by the graduate teaching assistant covering that lab. Out of the 500 total points possible in this course, 100 of those points will come from your grade in the lab. For example, if you received a 92% in the lab, then 92 points will be added to your final point total in the lecture, and the resulting value will be your final grade.

Extra Credit:

I often find extra credit to be a valuable resource, and points added to your final lecture point total can be earned by going to the course website, clicking whichever link under "Extra Credit" in the "Content" section interests you the most, and writing a brief one-page summary over the material. These links will become available after Section Exam 2 and will encompass current events in weather and climate. Each summary is worth 10 points, and you may do up to two. Please turn in your summary typed (double spaced using 12-point font or lower). You may upload these summaries to Dropbox on eCourseware. Once assigned, extra credit can be turned in at any time up through Study Day, 7 December 2023.

Attendance:

Attendance is crucial and there is a very strong relationship between regular attendance and class performance. I will upload notes that highlight the key information in each chapter to Canvas, but I will not upload video lectures or PowerPoints. Lectures will also go beyond the textbook and include the

use of real-time data to illustrate key concepts that will help you understand the material and apply it in the lab.

Regular attendance is expected and will be tracked with sign-in sheets. Please do not come to class if you are sick. Such absences are excused, as are other commitments you have to the university (e.g., sports). But do let me know that you will be absent, so the excused absence gets recorded. I will use the attendance record to give the benefit of doubt to borderline grade situations. Having more than five unexcused absences though will be considered excessive and result in your final grade dropping a full letter grade.

STUDENT CONDUCT

Academic Dishonesty:

Cheating, plagiarism, or any other form of academic dishonesty will not be tolerated. Cases of academic dishonesty will be dealt with in accordance with the policies set forth in the University's Code of Student Rights and Responsibilities available at www.memphis.edu/osa/pdfs/csrr.pdf. It is your responsibility to understand these policies. A lack of understanding is not an adequate defense against a charge of academic dishonesty.

Cell Phones, Laptops, Tablets:

The use of cell phones, laptops, or tablet computers for purposes other than note taking is not allowed during class. Flagrant violation of this policy will result in you being dismissed from class.

STUDENTS WITH DISABILITIES

Any student who may need class or test accommodation based on the impact of a disability will need to contact Student Disability Services (SDS) at 110 Wilder Tower, 901-678-2880, www.memphis.edu/drs/. SDS coordinates accommodations for students with documented disabilities. A registration form is available on their website.

LECTURE SCHEDULE

Note: There is always a chance that this schedule could change. Any changes will be announced in class and updated in this syllabus on the course website.

Date	Topic	Chapter
29 August	Introduction	
31 August	Composition and Structure of the Atmosphere	1
5 September	Solar Radiation and the Seasons	2
7 September	Energy Balance and Temperature	3
12 September	Atmospheric Pressure and Wind	4
14 September	Atmospheric Pressure and Wind	4
18-22 September	Complete Section Exam 1	
19 September	Atmospheric Moisture	5
21 September	Cloud Development and Forms	6
26 September	Cloud Development and Forms	6

28 September	Precipitation Processes	7
3 October	Atmospheric Circulation	8
5 October	Atmospheric Circulation	8
9-13 October	Complete Section Exam 2	
10 October	Air Masses and Fronts	9
12 October	Air Masses and Fronts	9
17 October	No Class – Fall Break	
19 October	Midlatitude Cyclones	10
24 October	Midlatitude Cyclones and Winter Storms	10
26 October	Thunderstorms and Tornadoes	11
31 October	Thunderstorms and Tornadoes	11
2 November	Thunderstorms and Tornadoes	11
7 November	Tropical Systems	12
9 November	Tropical Systems	12
14 November	Weather Analysis and Forecasting	13
16 November	Weather Analysis and Forecasting	13
20-29 November	Complete Section Exam 3	
21 November	Air Pollution and Urban Heat Islands	14
23 November	No Class – Thanksgiving Break	15
28 November	Earth's Climates	15
30 November	Climate Change	16
5 December	Climate Change	16
8-14 December	Complete Comprehensive Final Exam	

***Note: 7 December 2023 is the last day to makeup missed exams and turn in any extra credit**