

**ESCI 1010 – Weather and Climate Honors  
Section 350 (Tue/Thu, 11:20 a.m.-12:45 p.m., JN 110)**

**Course Syllabus  
Spring 2018**

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**Instructor:** Dr. Dorian J. Burnette  
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**Office Hours**  
10-11 a.m. Tue-Thu  
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**

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elearn.memphis.edu (eCourseware)

**COURSE TEXTBOOK**

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**Required:** *Weather and Climate: A Branch of Physical Geography*, Second Custom Edition for University of Memphis

This textbook will be used in both lecture and in lab (i.e., there is not a separate lab textbook). You can purchase 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](http://www.pearsonmastering.com)
- Course Name: Burnette ESCI 1010 Weather and Climate Spring 2018
- Course ID: burnette54954

**LAB EXERCISES**

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<http://www.djburnette.com/classes/esci1010/>

**ABOUT THE COURSE**

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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 to 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

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Your grade at the end of the semester is completely determined from the total number of points earned. These points come from 1) random in-class quizzes, 2) your best 2 out of 3 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 550 points:

Grade	Points Needed	Average Percentage
A	495	90%
B	440	80%
C	385	70%
D	330	60%

### **Random In-Class Quizzes:**

Random in-class quizzes will be given toward the end of class throughout the semester. These quizzes are open book and open notes and cover material presented in class on that day. Each quiz is worth 5 points and must be turned in as you leave class on that day. There will be 10 random quizzes during the semester for a total of 50 points possible. Attendance in class is required to obtain these points, and missing too many of these quizzes could drop you an entire letter grade. If you are absent from class when a quiz occurred (e.g., sickness), then you will be allowed to makeup the quiz with a simple note excusing your absence (e.g., doctor's note indicating you were sick). These quizzes are meant to give you and me an idea of where you and the class stand on topics being presented in lecture, and allow you to have some additional points in the class other than just exams.

### **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. Blue scantrons (Form 4521), a No. 2 pencil, and your student ID number are required for all exams. Correct answers will be posted to the course website shortly after each exam.

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, 26 April 2018.

### **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 will be placed on the course website on 22 January 2018. The term paper is worth 100 points and is due on 6 April 2018. Late term papers will be accepted through Study Day, 26 April 2018, 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. These labs begin the week of 23 January 2017. 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 450 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, 26 April 2018.

## **COURSE SUGGESTIONS**

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This can be a difficult course simply because of the amount of material presented in a short period of time. Some topics are also rather complex (e.g., instability). Make certain to take notes during lecture. My PowerPoint lectures for each chapter will also be uploaded to the course website after the chapter is presented in class, so you can use the various figures and tables discussed in class to help you study for the exams.

## **STUDENT CONDUCT**

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### **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 <http://www.memphis.edu/studentconduct/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 tablets for purposes other than answering in-class questions and note taking is not allowed during class. Flagrant violation of this policy will result in you being dismissed from class.

## **STUDENTS WITH DISABILITIES**

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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, 678-2880. SDS coordinates accommodations for students with documented disabilities. Once you receive your documentation from SDS, you are encouraged to schedule a meeting with me to provide me with the paperwork and discuss any accommodations needed for examinations and class materials.

## LECTURE SCHEDULE

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**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.

<b>Date</b>	<b>Topic</b>	<b>Chapter</b>
16 January	Introduction / Essentials of Geography	1
18 January	Composition and Structure of the Atmosphere	2
23 January	Solar Radiation and the Seasons	3
25 January	Energy Balance and Temperature	4
30 January	Atmospheric Moisture	5
1 February	Atmospheric Stability	5
<b>6 February</b>	<b>Section Exam 1</b>	
8 February	Condensation and Precipitation	6
13 February	Condensation and Precipitation	6
15 February	Air Pressure and Winds	7
20 February	Air Pressure and Winds	7
22 February	Circulation of the Atmosphere	8
27 February	Circulation of the Atmosphere	8
<b>1 March</b>	<b>Section Exam 2</b>	
6 March	No Class – Spring Break	
8 March	No Class – Spring Break	
13 March	Air Masses and Fronts	9
15 March	Midlatitude Cyclones	10
20 March	Midlatitude Cyclones and Winter Storms	10
22 March	Thunderstorms and Tornadoes	11
27 March	Thunderstorms and Tornadoes	11
29 March	Thunderstorms and Tornadoes	11
3 April	Tropical Systems	12
5 April	Weather Analysis and Forecasting	13
<b>10 April</b>	<b>Section Exam 3</b>	
12 April	Air Pollution	14
17 April	World Climates	15
19 April	The Changing Climate	16
24 April	The Changing Climate	16
<b>3 May (8-10 a.m.)</b>	<b>Comprehensive Final Exam</b>	

**\*Note:** 26 April 2018 is the last day to makeup missed exams and turn in any extra credit.

## LAB SCHEDULE

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<b>Week</b>	<b>Lab</b>
15 January	No Lab
22 January	Introduction and Pre-Test
29 January	Lab 1 – Introduction to Weather Data
5 February	Lab 2 – Energy and Temperature
12 February	Lab 3 – Atmospheric Moisture
19 February	Lab 4 – Stability
26 February	Lab 5 – Atmospheric Motion
5 March	No Lab – Spring Break
12 March	Lab 6 – Midlatitude Cyclones and Thunderstorms
19 March	Lab 7 – Hurricanes
26 March	Lab 8 – Air Pollution
2 April	Lab 9 – Climate Classification
9 April	Lab 10 – Climate Controls, Variability and Change
16 April	Lab Final Exam and Post-Test
23 April	No Lab