GEOL 1447.001IN
Meteorology
Fall 2024
Asynchronous Online through Brightspace/D2L (Lecture/Lab)

Instructor Information: Cameron McDonald, jmcdonald9@com.edu

Student hours and location:
Virtual Office Hours: Friday 1:30-2:30, other hours available by appointment
I will respond to all emails within 24 hours during the week and as soon as is convenient, but by no later than Monday morning, for all communications received over the weekend.

Required Textbook/Materials: M*eteorology Today: An Introduction to Weather, Climate, and the Environment, 13th Edition* by Ahrens and Henson e-textbook with Mindtap. Note: The e-textbook and Mindtap are purchased at the time of registration and you will gain access to online materials in Brightspace/D2L when classes begin.

Required Resources:
It is your responsibility to have access to a computer with the following resources:

- Internet access through a wired ethernet connection
- Web browser capable of viewing flash video (Chrome/Firefox work best)
- Java installed and updated
- COM email account
- Respondus Lockdown Browser and Monitor
- Webcam (built in or separate device)
- Microsoft Office (free download available to all COM students)
- PDF reader

You are responsible for maintaining your own online access to the course. If your computer does not allow you to complete the assignments in the course, please use the computers available on campus. Be aware that the college computers are only available during the hours of operation for the computer labs and library. It is up to you to be aware of those times and get all assignments turned in on time.

Course Description: A study of the earth's atmosphere, weather and climate. Topics include the origin and evolution of the atmosphere, the seasons, solar and terrestrial radiation, the hydrologic cycle, the development of storms, and the fundamentals of global climate patterns. The course will focus on basics of weather, thunderstorms, tornadoes, hurricanes, floods, and the impact of air pollution and global warming. The lab portion of the course features hands-on meteorological observations and experiences with weather maps, forecasting, severe weather phenomena, atmospheric pollution, and climate change. Prerequisite: Prerequisite: TSIA2 945-990 ELAR/CRC test AND 5 or higher on Essay OR 910-944 on CRC with 5-6 on Diagnostic Test + 5 or higher on Essay or IRW 0320 with a grade of "C" or better. Prerequisite: Math 950+ or Diagnostic Level 6 or MATH 0315 or MATH 0320 with a grade of "C" or better. A prior course in Physics and MATH 1314 strongly recommended.

Course requirements:

- **Homework Assignments:** There will be a graded homework assignment associated with each chapter. There will also be extra assignments that are not for a grade, but are useful when preparing for an exam.
- **Lecture Exams & Comprehensive Final Exam:** Lecture exams and final exam will be taken in D2L using the Respondus Lockdown Browser and will consist of multiple choice, T/F, fill in the blank, and short answer questions.
- **Lab Assignments:** Lab assignments completed through Mindtap and D2L
- **Lab Exams:** Lab exams will be taken in D2L using Respondus Lockdown Browser and will cover material presented in lab assignments and will consist of multiple choice, T/F, fill in the blank, and short answer questions.

Required Online Resources

- COM Brightspace/D2L: http://com.brightspace.com. COM Brightspace/D2L will be used for online activities and more. All of the class resources are available through Brightspace/D2L.
- Meteorology Today e-textbook with Mindtap: Login will be completed through Brightspace/D2L. Weekly assignments will be completed through Mindtap.
- Respondus Lockdown Browser (available through Brightspace/D2L) and a webcam for Respondus Monitor.

Determination of Course Grade/Detailed Grading Formula: As this is a lecture/lab combined course, both components will be used in determination of your final grade. Your lecture grade will account for 75% of your final grade, and your lab grade will account for 25% of your final grade.

Lecture Grade	
Lecture Assessments	45% (8 Assessments, 90 points each, 720 total points)
Homework Assignments	30% (16 Assignments, 30 points each, 480 points total)
Comprehensive Final Exam	25% (400 points total)
Lecture Grade Total	**1600 Points**

Laboratory Grade	
Lab Activities	55% (16 Assignments, 13.75 points each, 220 points total)
Lab Exams	45% (3 exams, 60 points each, 180 points total)
Lab Grade Total	**400 Points**
Total	**2000 Points**

Grading Scale

Final grades for this course will be based on total points earned and are assigned as follows:

Letter Grade	Grade Average
A	**90% - 100% (1800-2000 points)**
B	**80% - 89.99% (1600-1799 points)**
C	**70% - 79.99% (1400-1599 points)**
D	**60% - 69.99% (1200-1399 points)**
F	**0 – 59.99% (0-1199 points)**

Lab Science Statement

The grade for this course consists of both a lecture and laboratory component. Students must earn a 70% or better in the laboratory component to successfully pass the course. Earning less than 70% in the laboratory component will result in an F for the course regardless of the lecture grade. Passing the laboratory component and failing the lecture component will not guarantee a passing grade for the course. Deviations from this policy will be at the sole discretion of the instructor.

Late Work, Make-Up, and Extra-Credit Policy: Any deviations from the policies described below are at the sole discretion of the instructor.

Late Work Policy: The course is designed to accommodate unexpected life events by providing extended deadlines for selected assignments. In those cases, there will be a deadline extension after the initial deadline. After the extended deadline has passed, the assignment is closed, and the link may be removed. Expect that no additional time will be provided. Please use the course outline to ensure that you meet assignment and assessment deadlines throughout the semester. Extended deadlines are included in the class outline.

- **Mindtap Activities and Labs:** Extended deadline of 2 days that results in 10% loss of points if submitted after the original deadline.
- **D2L Lab Assignments:** Extended deadline of 2 days that results in 10% loss of points if submitted after the original deadline.
- **Lecture Exams, Final Exams, and Lab Exams:** No extended deadline given.

Makeup Policy:
Mindtap activities/labs, D2L lab assignments, and essays do not have a makeup policy due to the extended deadlines.

- **Lecture Exams and Final Exams:** Ample time is given to complete the online exams and there are no makeup exams offered.
- **Lab Exams:** Ample time is given to complete the online exams and there are no makeup exams offered.

Extra Credit Policy: During the semester there will be opportunities for extra credit. Students are responsible for submitting any extra credit work by the due date and no late work for extra credit will be accepted.

Attendance Policy: Students are expected to actively participate in their online course. In order to be counted as present in the online portion of this course, you must log in at least **2 times per week** to participate in the class, complete assignments, print notes, or complete exams. This policy follows the attendance policies prescribed in the College Catalog (http://coursecatalog.com.edu/). Failing to log in to Brightspace/D2L, failing to log in to Mindtap, or failing to complete your work as scheduled demonstrates insufficient progress towards obtaining the course goals (objectives) and is detrimental to learning course material.

Communicating with your instructor: ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means. (Faculty may add additional statement requiring monitoring and communication expectations via D2L or other LMS)

Student Learner Outcome	Maps to Core Objective	Assessed via this Assignment
1. Describe the basic concepts of atmospheric composition and structure.		
2. Develop basic understanding of Earth's energy budget, temperature, humidity.	Critical Thinking	Homework Assignments
3. Identify different cloud formations and precipitation types.		
4. Illustrate the relationship between atmospheric stability and cloud development.		
5. Describe the formation and life cycle of air masses,		

mid-latitude cyclones, and severe storms.		
6. Describe the relationship between air pollution and climate change and the impacts on weather phenomena.		
7. Apply scientific reasoning, data analysis techniques, and mathematical equations to interpret atmospheric data.	Empirical and Quantitative Skills	Lab Activities
8. Use ArcGIS tools, weather maps, graphs, and charts to interpret and analyze atmospheric data.		
9. Interpret and effectively summarize scientific findings from work published in academic journals.	Communication Skills	Project
10. Ability to consider differing viewpoints while working with others to support a shared goal or purpose.	Teamwork	Discussion Posts

Academic Dishonesty: Any incident of academic policy will be dealt with in accordance with college policy and the Student Handbook. Academic dishonesty – such as cheating on exams is an extremely serious offense and will result in a **grade of zero** on that exam and the student will be referred to the Office of Student Conduct for the appropriate discipline action.
Plagiarism: Plagiarism is using someone else's words or ideas and claiming them as your own. Plagiarism is a very serious offense. Plagiarism includes paraphrasing someone else's words without giving proper citation, copying directly from a website and pasting it into your paper, using someone else's words without quotation marks. Any assignment containing any plagiarized material will receive a **grade of zero** and the student will be referred to the Office of Student Conduct for the appropriate discipline action.
Link(s) to resource(s) about avoiding plagiarism:
https://owl.english.purdue.edu/owl/resource/589/01/

Student Concerns: If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Department of Science and Engineering Chair, Sheena Abernathy, at sabernathy@com.edu.

Online Classroom Conduct Policy: College of the Mainland requires that students enrolled at COM be familiar with the Standards of Student Conduct, which can be found in the on-line Student Handbook. http://www.com.edu/student-services/student-handbook.php . Students are expected to be familiar with and abide by the Student Code of Conduct. Any violations of the Code of Conduct will result in a referral to the Dean of Students and may result in dismissal from this class.

Course outline: The following course schedule is tentative and is subject to change. All changes will be communicated in writing via D2L and email.

Week	Content	What's Due	Due Date
Week 1	Getting Started Module, Syllabus, D2L & Mindtap Overview	Getting Started Module, Syllabus, D2L and Mindtap Overview	23-Aug
	Chapter 1: Earth and Its Atmosphere	Ch. 1 Homework Assignment, Ch. 1 Mindtap Lab	
Week 2	Chapter 2: Energy: Warming and Cooling Earth and the Atmosphere	Ch. 2 Homework Assignment, Ch. 2 Mindtap Lab	30-Aug
	Lecture Assessment 1	Lecture Assessment 1	
Week 3	Chapter 3: Seasonal and Daily Temperatures	Ch.3 Homework Assignment, Ch. 3 Mindtap Lab	6-Sep
	Chapter 4: Atmospheric Humidity	Ch. 4 Homework Assignment, Ch. 4 Mindtap Lab	
	Lecture Assessment 2	Lecture Assessment 2	
Week 4	Chapter 5: Condensation: Dew, Fog, and Clouds	Ch. 5 Homework Assignment, Ch. 5 Mindtap Lab	13-Sep
	Lab Exam 1	Lab Exam 1	
Week 5	Chapter 6: Stability and Cloud Development	Ch. 6 Homework Assignment, Ch. 6 Mindtap Lab	20-Sep
	Lecture Assessment 3	Lecture Assessment 3	
Week 6	Chapter 7: Precipitation	Ch. 7 Homework Assignment, Ch. 7 Mindtap Lab	27-Sep
	Chapter 8: Air Pressure and Winds	Ch. 8 Homework Assignment, Ch. 8 D2L Lab	
Week 7	Lecture Assessment 4	Lecture Assessment 4	4-Oct
	Chapter 9: Wind: Small-Scale and Local Systems	Ch. 9 Homework Assignment, Ch. 9 Mindtap Lab	
Week 8	Chapter 10: Wind: Global Systems	Ch. 10 Homework Assignment, Ch. 10 Mindtap Lab	11-Oct
	Lab Exam 2	Lab Exam 2	
Week 9	Lecture Assessment 5	Lecture Assessment 5	18-Oct
	Chapter 11: Air Masses and Fronts	Ch. 11 Homework Assignment, Ch. 11 Mindtap Lab	
Week 10	Chapter 12: Mid-Latitude Cyclones	Ch. 12 Homework Assignment, Ch. 12 Mindtap Lab	25-Oct
	Lecture Assessment 6	Lecture Assessment 6	
Week 11	Chapter 13: Weather Forecasting	Ch. 13 Homework Assignment, Ch. 13 Mindtap Lab	1-Nov
	Chapter 14: Thunderstorms	Ch. 14 Homework Assignment	
Week 12	Lab Exam 3	Lab Exam 3	8-Nov
	Lecture Assessment 7	Lecture Assessment 7	
Week 13	Chapter 15: Tornadoes	Ch. 15 Homework Assignment, Ch. 15 Mindtap Lab	15-Nov
	Chapter 16: Hurricanes	Ch. 16 Homework Assignment, Ch. 16 Mindtap Lab	
Week 14	Lecture Assessment 8	Lecture Assessment 8	22-Nov
Week 15	Review Week	Review Week	
Week 16	Comprehensive Final Exam	Comprehensive Final Exam	4-Dec

Institutional Policies and Guidelines

Grade Appeal Process: Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook https://www.com.edu/student-services/docs/Student_Handbook_2024-2025_v2.pdf**.** *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.*

Academic Success & Support Services: College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement: Any student with a documented disability needing academic accommodations is requested to contact:
Kimberly Lachney, Student Accessibility Services Coordinator
Phone: 409-933-8919
Email: AccessibilityServices@com.edu
Location: COM Doyle Family Administration Building, Student Success Center

Textbook Purchasing Statement: A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy: Students may withdraw from this course for any reason prior to the last eligible day for a "W" grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 8-week session is October 2. The last date to withdraw from the 16-week session is November15. The last date to withdraw for the 2nd 8-week session is November 26.

FN Grading: The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

Resources to Help with Stress:
If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click here https://www.com.edu/community-resource-center/. College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at deanofstudents@com.edu or communityresources@com.edu.

Nondiscrimination Statement:
The College District prohibits discrimination, including harassment, against any individual on the basis of race, color, religion, national origin, age, veteran status, disability, sex, sexual orientation, gender (including gender identity and gender expression), or any other basis prohibited by law. Retaliation against anyone involved in the complaint process is a violation of College District policy.