

GEOG 473-01, -02, -03, -04

ELEMENTS OF WEATHER

Spring 2009

Dr. Mary (Lemcke) Stampone

Welcome to Elements of Weather!

There are few things in nature that impact our daily lives as significantly as the instantaneous state of the atmosphere, otherwise known as weather. The purpose of this course is to introduce you to a variety of weather phenomena and the fundamental principles that govern the state of the atmosphere at any given time. In this course, we will discuss, examine, and analyze the elements of weather and the processes that drive it.

The course will be divided into three parts, starting with the basic composition and properties of the atmosphere, followed by atmospheric motion, and weather systems. Throughout the first third of the semester, you will be introduced to the basic concepts of atmospheric structure and the distribution of energy and temperature within the atmosphere. The second part will focus on the distribution and function of moisture within the atmosphere and dynamic atmospheric processes such as global atmospheric pressure patterns, circulation, and wind. These concepts are the foundation for the material covered during the final weeks of the semester therefore a thorough understanding of the basic concepts is essential. The remainder of the semester will use the basic concepts previously covered to explain a variety of weather patterns including mid-latitude storm systems, thunderstorms, tornadoes, and hurricanes.

Concepts will be reinforced quantitatively through laboratory exercises using basic mathematical (+, -, \times , \div), trigonometric (sine, cosine etc...), and algebraic (fractions and exponents) operations. Weather data will be analyzed graphically using graphs, tables, weather station models, and maps.

I hope you enjoy this course and take with you a better understanding of the natural environment that surrounds you. Do not hesitate to contact me with any questions or comments you may have about this course.

BASICS

TIME & PLACE	Lecture: MUB Theater II Monday-Wednesday-Friday 11:10-12:00 pm Laboratory: 103 Morrill Hall 473-01 – Monday 12:10-1:00 pm 473-02 – Monday 1:10-2:00 pm 473-03 – Wednesday 9:10-10:00 am 473-04 – Wednesday 10:10-11:00 am	
INSTRUCTOR	Dr. Mary D. Stampone 102A Huddleston Hall	Mary.Stampone@unh.edu (603) 862-3136
LAB INSTRUCTOR	Richard Giard	rpgiard@mail.plymouth.edu
OFFICE HOURS	Monday/Friday Tuesday/Thursday By Appointment	10:00-11:00 am 1:30-2:30 pm
BLACKBOARD	All course documents are located under “Course Documents” on Blackboard.	
TEXTBOOK	Lutgens, F.K. and E.J. Tarbuck, <i>The Atmosphere</i> , 10 th Edition (Recommended)	
LAB MANUAL	Carbone, G., <i>Exercises for Weather and Climate</i> , 6 th Edition (Required)	
MATERIALS	Calculator with trigonometric functions (sin, cos, tan etc...) Ruler with English and metric units	
ACCESSIBILITY	In accordance with university policy, if you have a documented disability and require specific accommodations, notify me at the beginning of the semester or prior to the assignment of course material for which an accommodation is required. (http://www.unh.edu/disabilityservices/disabilityservices.html)	
UNIVERSITY POLICIES	All students should know and understand university policies and procedures regarding academic performance including, attendance and academic dishonesty. If you are unfamiliar with these policies, please refer to the University of New Hampshire Student Rights, Rules, and Responsibilities for more information. (http://www.unh.edu/student/rights/)	
COMMENTS	The following procedures, policies, and schedules may change during the course semester. Any changes will be announced in class and posted on blackboard. Announcements may also be distributed via email. It is your responsibility to check your university email account and blackboard regularly.	

CLASS CONDUCT

- GENERAL** Being a student is your profession and you are expected to conduct yourself in a professional manner concerning all matters of this course.
- COMMUNICATION** All forms of communication directed toward your instructors and classmates should be conducted in a professional manner. Emails should be addressed appropriately, contain complete sentences, capital letters, and proper punctuation. All communication directed toward your instructors must contain your **name**, the **course** and **section number**.
- ELECTRONIC DEVICES** The use of mobile phones, pagers, walkie-talkies, mp3 players, video games, electronic pets etc... is prohibited while in class. You may use a computer in lecture for note taking purposes only.
- A calculator is the only electronic device that can be used in lab and on exams. Cell phones may not be used as calculators. You may not share calculators with another student on an exam. Either action will be considered cheating and will result in an exam score of "0."
- BEHAVIOR** Immature, rude, and inappropriate behavior in the classroom will not be tolerated. This includes talking while your instructor, or another student, is speaking, as well as text, instant, or email messaging during the class period. Anyone caught engaging in such activity will be asked to leave immediately and will be given an unexcused absence regarding any missed coursework. This is your warning.
- Class is not over until the professor has completed the day's lecture. Remember, class ends noon (not 11:55 am) so do not expect, nor prepare, to leave before you are dismissed. Early departure is incredibly disruptive and rude, and may cause you, and your classmates, to miss important material.

ATTENDANCE

- GENERAL** Attendance in lecture is not mandatory but is highly recommended. It has been shown that students who attend class regularly perform better in class than those who do not. I do not make my class notes available to students so if you miss a class you are responsible for any missed material.
- Attendance in laboratory is mandatory.** Refer to the laboratory syllabus for more details regarding missed laboratory assignments.

TARDINESS

Tardiness is incredibly disruptive and rude, so be on time. Also, all announcements will be made at the beginning of class. If you are late you are responsible for any missed material.

EXCUSED ABSCENCES Each student must receive equal opportunity to demonstrate his/her comprehension of course material. Therefore, all students will take exams and quizzes on the same day. No make-up exams will be given, however, exceptions will be made for:

- 1.) Absences in which prior arrangements have been made. Such arrangements must be made **at least one week in advance** of the absence.
- 2.) Absences due to family or personal medical emergencies in which **a university approved absence as been granted**. You must contact your college's Dean's office for a letter verifying your absence.
- 3.) Absences due to serious illness or personal medical emergency **accompanied by a doctor's note**.

I am not interested in the reason for the absence or details relating to it. I simply need verification that the absence was unavoidable.

MISSED WORK

In all cases, it is entirely up to you to make arrangements to complete any missed exams. In the case of an excused absence without prior arrangements, you must notify me within 48 hours of the scheduled exam or quiz. If you fail to receive approval for a make-up exam within this time frame, or have an unexcused absence, you will not be allowed to make-up the exam for any reason.

No make-up quizzes will be given. However, a missed quiz due to an excused absence will be omitted from your final grade.

In the case of an excused laboratory absence, you may complete the lab assignment on your own and submit it for full credit at the beginning of the next attended lab section. If you fail to receive approval for a lab absence from your laboratory instructor within a 48-hour period, or have an unexcused absence, you will not be allowed to turn in the lab assignment for any reason.

All missed coursework due to unexcused absences, including exams, will be assigned a grade of "0".

GRADING PROCEDURES

GENERAL All coursework submitted for evaluation must include your name and section number. Any paper submitted without a name will be given a "0". Any paper submitted without a section number will lose 1 point. This rule applies to tests, quizzes and labs. Failure to follow directions may also result in a point loss.

EXAMS You will have **three exams** in this course, each worth 20 % of your final grade. Two exams will be administered during the regular semester and a final exam during exam week. Given the comprehensive nature of the material covered in this course, exams will be comprehensive, however, they will be oriented toward the section of the course most recently presented. Exams will test your comprehension of material covered in lecture and lab but will focus on qualitative assessment of lecture material. The exam format will consist of 40 questions, including multiple-choice and matching questions.

QUIZZES In addition to exams, you will be given short, announced quizzes worth 10 % of your final grade. The purpose of each quiz is to reinforce course material as it is introduced. Each quiz will be given during lecture and focus on recently covered material. **No make-up quizzes will be given.**

LABS You will be assigned an introductory geography assignment and **twelve laboratory assignments** from your laboratory manual to be started in laboratory sections and completed on your own. All labs must be completed and turned in at the beginning of the next lecture period. You will also have a **midterm** and a **final exam**, covering laboratory material, administered during laboratory. Laboratory assignments and exams are worth 30 % of your final course grade. Refer to the laboratory syllabus for more details.

FINAL GRADES Final grades will be determined based on your performance on exams, quizzes, and laboratory assignments. Final grades will be assigned using the following grade distribution:

A	93 %	B	83 %	C	73 %	D	63 %
A-	90 %	B-	80 %	C-	70 %	D-	60 %
B+	87 %	C+	77 %	D+	67 %	F	<60 %

Consideration of improvement, effort, and attendance may be taken into account when determining your final grade. Final grades may also be curved depending upon class performance. However, **no extra credit** will be offered in this course ... so don't ask.

CLASS SCHEDULE

<u>Week</u>	<u>Topic</u>	<u>Lab</u>
Jan 19	Chapter 1: Introduction	<i>No Lab</i> – North Am. Geog.
Jan 26	Chapter 1: Atmospheric Structure Chapter 2: Energy	Lab 1: Atmospheric Structure
Feb 2	Chapter 3: Temperature	Lab 2: Earth-Sun Geometry
Feb 9	Chapter 3: Temperature Cont. Chapter 4: Atmospheric Moisture	Lab 3: Surface Energy Balance
Feb 16	Chapter 4: Atmospheric Moisture Cont. Exam One (Ch. 1-3) – 2/20	Lab 13: Climate Controls
Feb 23	Chapter 4: Atmospheric Stability Chapter 5: Clouds & Fog	Lab 5: Atmospheric Moisture
Mar 2	Chapter 5: Precipitation Chapter 6: Atmospheric Pressure	Lab 6: Atmospheric Stability
Mar 9	Chapter 6: Wind	Lab Exam A (labs 1-3, 13, 5-6)
Mar 16	<i>No Class – Spring Break</i>	<i>No Lab – Spring Break</i>
Mar 23	Chapter 7: Atmospheric Circulation	Lab 7: Cloud Droplets and Rain
Mar 30	Chapter 8: Air Masses Weather Maps Exam Two (Ch. 4-7) – 3/3	Lab 8: Atmospheric Motion
Apr 6	Chapter 9: Weather	Lab 9: Weather Maps
Apr 13	Chapter 10: Thunderstorms	Lab 10: Mid-latitude Cyclones
Apr 20	Chapter 10: Severe Weather	Lab 11: Thunderstorms
Apr 27	Chapter 11: Hurricanes	Lab 12: Hurricanes
May 4	Chapter 11: Hurricanes cont.	Lab Exam B (labs 7-12)
May 11	Review Final Exam – 5/	

***Note: Dates and topics may change. Any changes made to the schedule will be announced in class and posted online. It is your responsibility to be aware of these changes.