Branching lightening

METO 1010
INTRODUCTION TO METEOROLOGY
SECTIONS 151 & EDNET
Spring 2011

Oldest known photograph of a tornado
South Dakota, August 1884

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Course websites: http://research.uvu.edu/bunds and Blackboard via http://uvlink.uvu.edu
Office hours (tentative): Monday & Friday, 10:30 – 11:30 and by appointment (send me an email)

TENTATIVE CLASS SCHEDULE

Week	Topic	Reading Chapters	Suggested Problems from the Textbook [RQ = Review Questions, P = Problems]	Etc.
Jan 5-7	Introduction	1	Ch. 1: Review Questions (RQ): 1-5, 7, 8, 10, 12-16	
Jan 10-14	Basics of the atmosphere, Heat and the atmosphere	2	Ch. 1: Problems (P): 1, 2, 4, 5, 6 Ch. 2: RQ: 1-18	Quiz 1
Jan 18-21	Heat and the atmosphere	3	Ch. 2: P: 1 (use 40° instead of 50° for latitude), 2 (use 40° instead of 50° for latitude), 3, 4, 5	Martin Luther King Jr. Day 1/17; Quiz 2
Jan 24-28	More heat; Temperature and the atmosphere	3, 4	Ch. 3: RQ: 1-6, 8, 10, 11, 12, 14, 15, 17, 18; P: 1, 6, 7	Quiz 3
Jan 31 - Feb 4	More temperature; Moisture & stability	4	Ch. 4: RQ: 2-6, 11-15, 17, 18, 20-26; P: 1, 3, 4	Exam 1: Chapters 1-4 (tentative; probably Ch 4 thru humidity)
Feb 7-11	More moisture & stability	4		
Feb 14-18	More water in the atmosphere; Clouds and precipitation	4, 5	Ch. 5: RQ: 1-12, 14, 15, 19, 21; P: 1-4	Quiz 4
Feb 22-25	More clouds and precip.	5		President's Day 2/21
Feb 28 - Mar 4	Air pressure and wind	6	Ch. 6: RQ: 1, 3, 5-8, 10, 12-16, 18	Quiz 5
Mar 7-11	Global and regional air circulation	7	Ch. 7: RQ: 1, 2, 5-8, 10, 12-21	Exam 2: Ch. 4-6, possibly some 7
Mar 14-15	More air circulation; Air masses	7, 8	Ch. 8: RQ: 1-7, 9-13, 15; P: 1 (photocopy), 2, 3, 4	Spring Break 3/16-18; Quiz 6
Mar 21-25	Mid - latitude cyclones	9	Ch. 9: RQ: 2-10	Quiz 7
Mar 28- Apr 1	More mid-latitude cyclones	9	Ch. 9: RQ: 11, 14, 15, 17	Exam 3: Ch. 7-9 (tentative)
Apr 4-8	Thunderstorms & Hurricanes	10, 11	Ch. 10: RQ: 1-6, 8, 10, 11, 13-17; P: 1, 3, 4, 5 Ch. 11: RQ: 1-5, 7-12, 14-17, P: 1-3	
Apr 11-15	Weather forecasting	12	Ch. 12: RQ: 1-4, 6-8, 12, 13, 15-19, 23, 24; P: 2	Quiz 8
Apr 18-21	Climate change; Earth's Climates	14, 15	Ch. 14: RQ: 2, 5, 6, 9 - 12, 13, 14 Ch. 15: RQ: 1, 2, 4, 5, 14, 15, 18, 20, 23, 27, 29, 35, 37, 39, 42	Quiz 9; Study day 4/22
Apr 25-28	Final: Weds. 4/27 1 – 3 pm (don't be late!)		Finals are in the classroom where lectures are held Final is comprehensive	Approx.: 50% Comprehensive 50% Ch. 12,13,14,16,18

REQUIRED TEXTBOOK
Lutgens and Tarbuck, 2010, The Atmosphere: An Introduction to Meteorology, 11th ed.: Prentice Hall, New Jersey, 508 p.
Note: you can get by with the 10th edition, possibly at significant savings. See class website for appropriate chapters and questions for 10th edition.

COURSE WEBSITES The two websites associated with this class are described below.
http://research.uvu.edu/bunds This is my homepage and from it you can get to a METO 1010 website for this class. On this site you will find class **announcements, handouts, the syllabus, study guides for exams,** and other important materials. You cannot access your exam scores from this website.

http://uvlink.uvu.edu This url (web address) is the UVLink portal, and through it you can get to your class Blackboard pages. On the class Blackboard site you will find your **quiz** and **exam scores**.

SCOPE AND FORMAT OF THE COURSE
Introduction to Meteorology is meant to be fun, challenging and educational. During the semester we will study diverse aspects of Earth's atmosphere, weather and climate. We will strive to work both with basic concepts of meteorology as well as building a more practical, applied and quantified understanding that will be useful to you in your every day life. For example, this might mean not just understanding why warm air tends to rise (its less dense than cooler surrounding air), but also knowing the specific atmospheric conditions in which it can rise high in the atmosphere and create powerful thunderstorms.

Your grade for the class will be based primarily on your scores on quizzes and exams, along with a modest amount of mandatory homework. However, during the semester you will be expected to attend class, do readings and other assignments from the textbook, carefully and thoroughly complete the homework, and prepare for quizzes and exams (see the 'Homework' section below). *It is virtually impossible for you to do well in the class without completing these tasks*. The course grading scheme is designed to provide opportunities for you to succeed in the course, and in the event that you do poorly on a midterm exam, you may recoup some points with Midterm Insurance (see below).

GRADING
Your grade will be based on 4 exams (3 midterms and a comprehensive final), your best 7 (out of 8 or 9) quizzes, and any extra credit or bonus points your earn (described in following sections). Your grade may also be affected by your behavior in the class (see student responsibilities below). How your course grade is determined from the scored work is listed below:

Homework & in class work	TBA (10% total)	=> 10 % from homework
Quizzes:	7 @ 2 % each	=> 14 % from quizzes
Midterms:	3 @ 19 % each	=> 57 % from midterms
Final:	1 @ 20 %	=> 20 % from the final
	Total	=>**101 %** (+ any extra credit and bonus points)

Your letter grade for the class and all assignments will be based on the following scale:

A	= 94 - 100%	B+	= 87 - 89.9%	C+	= 77 - 79.9%	D+	= 65 - 69.9%	E	< 55%
A-	= 90 - 93.9%	B	= 83 - 86.9%	C	= 73 - 76.9%	D	= 59 - 64.9%		
		B-	= 80 - 82.9%	C-	= 70 - 72.9%	D-	= 55 - 58.9%		

The highest score obtained by a student on any given exam and for the entire semester in the class counts as 100%, and your score is calculated as follows:
Your percentage = (your score) / (highest score) x 100. For example, if the high score on a midterm is 47 points and you score is 38, your percentage would be 81.0% , good for a B-.

Quizzes are short (about 10 minutes), take place at the beginning of class and may be unannounced. It is your responsibility to attend class so as not to miss them, and to arrive on time to class - if you arrive late, you will not be allowed to take the quiz. Your lowest two quiz scores are dropped from your grade.

Midterm exams will be available at the testing center for UVU campus students. Distance site students will take the midterms during regular class time. The exact dates of the midterms will be announced in class. It is your responsibility to attend class and keep abreast of exam and quiz dates. All three midterm exams count towards your grade.

The *Final exam* will be comprehensive, but with emphasis on the material that we'll cover after the 3rd midterm. No 'insurance' will be available for the final exam.

MAKE UPS:
You are expected to treat college classes like a job and to take exams and quizzes at the regularly scheduled time. Plan your vacations and other activities so that they do not conflict with your classes. If something unforeseen and important prevents you from taking an exam at the regular time, **contact Dr. Bunds (801.863.6306) or the College of Science secretary (801.863.8616) before the end of the test period** so we can work something out. **No make-ups will be granted after the end of a test period**. There will be no make-ups on quizzes because your two lowest quiz scores are dropped from your grade.

HOMEWORK:
Your grade in this class will be based primarily on quizzes and exams. However, there is homework associated with the class; much of it you are not required to hand in for a grade (although you may want to; see 'Midterm Insurance' below), and some of it you are required to hand in. **Please be aware that it is unlikely you will pass this class without carefully completing**

and reviewing all of the homework because the exams are drawn from the homework – both the optional and required homework. All in all, the homework falls into the following 3 categories.

1. Problems from the textbook (handing-in not required). On this syllabus, you are assigned some of the questions from the end of each chapter in your textbook. You are expected to complete all of these questions and to be prepared to answer similar or related questions on quizzes and exams. Note that the chapters covered by each midterm will be announced in class; the chapters listed on this syllabus are tentative and likely to change. There are two varieties of textbook questions – ***review questions*** and ***problems***. The review questions are designed to help you grasp the important basic concepts of the associated chapter. The problems help you obtain a more practical understanding of meteorology with which you can solve weather problems. In addition, the problems will help you improve your ability to work with graphs and numbers, an important goal of any general education physical science course. Review questions and problems that are assigned on this syllabus comprise part of the Midterm Insurance (see below).
2. Questions on the study guides written by Dr. Bunds (handing-in not required). A study guide will be supplied for each exam. The study guide will contain a brief outline of the material covered in class as well as a set of study questions that supplement the review questions and problems in the textbook.
3. Three to five assignments will be announced in class and required to be turned in for a grade. Your scores on these assignments will constitute 10% of your grade.

MIDTERM INSURANCE: TO ENSURE AT LEAST A C- ON EACH MIDTERM READ ON.
To guarantee points equal to a C- (70%) on a midterm do the following. Correctly and completely answer in complete sentences all the questions on the study guide that apply to the midterm, and the recommended questions (review questions and problems) from the textbook (chapters covered by each midterm will be announced in class; lists on the front of this syllabus are only tentative). You must turn your work in **before the end of the test period**. The answers must be neatly **handwritten,** in **complete sentences**, in **your own words** on a sheet of paper separate from the handout. Work that is incorrect, incomplete, illegible, or otherwise substandard will earn fewer than 70%. You are welcome to study with other students, but you must submit your own work, written in your own words. Work that is overly similar to another student's will receive a 0 and may lead to failing the class. **The idea is to do the questions, learn the material and get better than a C- on the exam!** Insurance is not available for the quizzes or final exam, so do not expect to earn a C- in the course using only insurance – you also must pass the quizzes and final. Preliminary lists of recommended textbook questions for each chapter are listed on the class schedule above, and preliminary study guides are available on the class website. **Be sure to photocopy your work before submitting it.**

BONUS POINTS
Unannounced bonus points may be awarded during the semester. Bonus points may be awarded simply for attendance, an extra pop quiz, or watching an in-class movie. If you miss class, you may miss out on bonus points.

EXTRA CREDIT:
Up to three extra credit assignments may add one percentage point each to your total course score. Satisfactorily completing three extra credits normally raises your grade at least one increment (i.e., from a B+ to an A-). Assignments entail a one-page summary of a magazine article, web article or book that involves Earth Science, or attending and submitting a summary on a UVU Earth Science seminar. The web links section on the class website is a good place to start looking for information sources. The summary must be handwritten and must include the article; substandard work will receive reduced points. ***All extra credit work is due (submitted to me, Distance Ed. or your facilitator) by Wednesday 4/20 – NO EXCEPTIONS.***

GENERAL STUDENT RESPONSIBILITIES:
Students' grades for this course normally are determined primarily from your score on the exams and assignments. However, you must also fulfill other responsibilities. Student responsibilities are described in the course catalog; below a few of particular significance to this course are outlined. Failure to fulfill these responsibilities may result in a lowered, or even failing, grade.

1. Attendance is strongly encouraged for this course. Quizzes and other activities may be unannounced and much of the exam material is drawn from lectures. Furthermore, it is your responsibility to be aware of all announcements made in class, including changes to the tentative class schedule outlined in this syllabus.
2. Disruptive, dangerous or otherwise inappropriate behavior in the classroom, fieldtrips or during any activity related to the class may result in a failing grade for the class and appropriate penalties from the University.
3. Any form of cheating, including plagiarism, may result in an immediate E for the course or at the least for the assignment in question and appropriate penalties from the University. **This includes copying any portion of someone else's homework or insurance work.**

ATTENTION STUDENTS WITH DISABILITIES: If you have any disability which may impair your ability to successfully complete this course, please contact the Accessibility Services office, 863-8747, WB 146. Academic accommodations are granted for all students who have qualified documented disabilities. All services are coordinated with the Accessibility Services office.