

Syllabus for ATMS 113 – Understanding the Atmosphere – Lecture Section - Fall 2014

Date	Topic	Reading/Lecture*
M 18 Aug 2014	Introduction/ The Earth's Atmosphere	Chapter 1
W 20 Aug	The Earth's Atmosphere	
M 25 Aug	Warming the Earth and Atmosphere	Chapter 2
W 27 Aug	Warming the Earth and Atmosphere	
M 1 Sep	Air Temperature	Chapter 3
W 3 Sep	Air Temperature	
M 8 Sep	Review	
W 10 Sep	Exam I	Chapters 1 - 3
M 15 Sep	Humidity, Condensation, and Clouds	Chapter 4
W 17 Sep	Humidity, Condensation, and Clouds	
M 22 Sep	Cloud Development and Precipitation	Chapter 5
W 24 Sep	Cloud Development and Precipitation	
M 29 Sep	Cloud Development and Precipitation	
W 1 Oct	Air Pressure and Winds	Chapter 6
W 8 Oct	Air Pressure and Winds	
M 13 Oct	Air Pressure and Winds & Review	
W 15 Oct	Exam II	Chapters 4 - 6
M 20 Oct	Atmospheric Circulations	Chapter 7
W 22 Oct	Atmospheric Circulations	
M 27 Oct	Air Masses, Fronts, and Middle-Latitude Cyclones	Chapter 8
W 29 Oct	Air Masses, Fronts, and Middle-Latitude Cyclones	
M 3 Nov	Air Masses, Fronts, and Middle-Latitude Cyclones & Review	
W 5 Nov	Exam III	Chapters 7 - 8
M 10 Nov	Thunderstorms and Tornadoes	Chapter 10
W 12 Nov	Thunderstorms and Tornadoes	
M 17 Nov	Hurricanes	Chapter 11
W 19 Nov	Hurricanes	
M 24 Nov	Presentations	Weather Forecasts
Final Exam	Presentations and exam	Weather Forecasts & Exam

*lecture viewing shall be completed **before** class meets on this date

Description

A course designed for the major and non-major student who is interested in learning the basics of the structure of our atmosphere and how the structure changes over time. Upon completion of this class you will be able to teach friends and family about details of the weather and be equipped to make a weather forecast for any location in the U.S.

Outline

The Earth's Atmosphere (text, Chapter 1)
Warming the Earth and Atmosphere (text, Chapter 2)
Air Temperature (text, Chapter 3)
Humidity, Condensation, and Clouds (text, Chapter 4)
Cloud Development and Precipitation (text, Chapter 5)
Air Pressure and Winds (text, Chapter 6)
Atmospheric Circulations (text, Chapter 7)
Air Masses, Fronts, and Middle-Latitude Cyclones (text, Chapter 8)
Thunderstorms and Tornadoes (text, Chapter 10)
Hurricanes (text, Chapter 11)

Grading

Weather Journal	5%
Pre- and Pro- Chapter Quizzes	5%
In-class Projects	10%
Weather Analysis and Forecast	10%
Exam I	15%
Exam II	15%
Exam III	15%
Final Exam	15%
Total	100%

92% < total score ≤ 100%	A
90% < total score ≤ 92%	A-
88% < total score ≤ 90%	B+
82% < total score ≤ 88%	B
80% < total score ≤ 82%	B-
78% < total score ≤ 80%	C+
72% < total score ≤ 78%	C
70% < total score ≤ 72%	C-
68% < total score ≤ 70%	D+
60% < total score ≤ 68%	D
total score ≤ 60%	F

Student Learning Outcomes for ATMS 113

- understand information being communicated on standard weather maps
- develop a conceptual model of the atmosphere that allows for the analysis and prediction of weather
- create solutions to weather-related challenges as a group and as an individual
- demonstrate an appreciation for impacts of global weather patterns on society

Weather Journal

Each student will be required to contribute to a weather web log in which they describe ways that the weather has impacted their daily life. You can find the weather web log page at <http://atms103unca.blogspot.com/> where further instructions are given. Each student is required to make nearly two entries a week (for a total of **25 entries minimum**). These entries will be reviewed periodically by the instructor to confirm that each student is keeping current with the assignment, so the entries are not private. In order to receive full credit on the weather journal assignment (5%), each student will need to make observations of weather impacts on their lives that are of a greater depth of analysis than simply writing “It was cold, so I put on a sweater.”

Pre- and Pro-

Preparation and professionalism are important habits at UNC Asheville and in your future workplace. We’ll work to develop both by having a lecture quiz at the very beginning of class on Mondays (no lecture quiz make-ups) to test that you have viewed the chapter lectures before diving into the in-class group projects. Professionalism is showing respect for each person in the class by actively listening and contributing. A lack of professionalism means that points are deducted from your Pre- and Pro- score. Each person will occasionally be evaluated on their contributions to group projects. The final semester tally will determine if you passed (earn the full 5%) or failed (0% score) in preparation and professionalism.

Chapter Quizzes

Quizzes will be given weekly once *per chapter* throughout the semester to encourage course participation and attendance. The quizzes will be defined either as individual or group quizzes. When a quiz is designated for a *group*, each individual within the group will receive an identical grade.

In-class Projects

ATMS 113 is a flipped classroom experience in which you will listen to lectures outside of the classroom and work on homework, via the in-class group projects, in the classroom under the watchful eye of Prof. Miller. Responses to the group projects will be turned in *every day* and reviewed in preparation for the chapter quizzes and mid-term and final exams. It is important that you come to class every day fully prepared by having listened to the recorded lectures and read the required chapters of the course textbook.

Weather Analysis and Forecast

Your group will be responsible for giving a ten- to fifteen-minute weather briefing in which you discuss the current weather conditions (weather analysis) and create a weather forecast for a location in the United States at the end of the semester. Prof. Miller will give examples of these discussions on Mondays throughout the semester. Details of the expectations and grading rubric for the weather briefing will be provided during the final month of the semester.

Exam I, II, and III

The mid-term exams (I, II, and III) will be primarily testing new material introduced since the previous exam or since the start of the semester.

Final Exam

The final exam is a *comprehensive* exam in which all the material contained in the entire course is testable.

Assignment/Quiz/Exam Policy

Reading assignments and lecture-listening are to be completed before the start of lecture on the date they are due. Quizzes and Exams are written tests and will be taken on the date they are scheduled, unless circumstances (e.g. medical or loss in the family) warrant. Make-up chapter quizzes for special circumstances will occur at a mutually agreed upon time outside of the usual class meeting time. The lowest chapter quiz score for each individual will be *dropped* from the total quiz score tabulation.

Instructor

Doug Miller
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Textbook

“Essentials of Meteorology An Invitation to the Atmosphere” by C. Donald Ahrens (sixth edition; “up, up, and away in my beautiful balloon...”)

Disabilities

Contact Prof. Miller early in the course if you have a disability that requires special accommodations.

Academic Integrity

Cheating or plagiarism results in a failed assignment, quiz, or exam on the first infraction. A second infraction results in course failure and a report to the UNCA administration. See <http://catalog.unca.edu/> and click on “Academic Policies and Procedures.” Read “Student Responsibilities” for a refresher on the UNCA policy.