
ATMS-491: ADVANCED WEATHER FORECASTING

Instructor: Dr. Jeff Frame
Office: 111 Atmospheric Sciences
Phone: 244-9575
Email: frame@illinois.edu
Office Hours: M, W 1:00-2:00; T, Th 4:00-5:00
By appointment

Meeting Times: Tu, Th; 9:30-10:50; 109 Atmospheric Sciences

Credits: 3 hours

Prerequisites: ATMS-313 (Synoptic Weather Forecasting)

Required Text: None.

Course Description: In this course, we will build upon our knowledge of synoptic weather forecasting to include advanced and mesoscale forecasting concepts. Topics to be covered include tropical weather forecasting, severe weather forecasting, aviation, fog, and visibility forecasting, aircraft icing, marine forecasting, and other topics as determined by the instructor and the prevailing weather patterns. Emphasis will also be placed on the proper and clear communication of weather forecasts to the intended audience.

Course Websites: A wealth of forecasting links, some of which will be discussed in class, are available on the course website, <http://compass2g.illinois.edu>. Use these links or your favorite weather sites as a starting point for your weather forecasts. Other materials, including lecture notes, homework assignments, and handouts will be uploaded to this site throughout the semester. Note that downloading lecture notes from Compass is **not** an adequate substitute for attending class; these notes are intended to provide you with some of the imagery shown during the lectures. Many key details will be missing from these summaries and will be given in class.

COURSE WORK

Homework Assignments: Homework assignments, primarily consisting of forecast discussions for various locations over differing periods of time, will be assigned frequently throughout the semester. Students will be expected to complete all assignments and may work together on homework, but *verbatim copying will NOT be tolerated under any circumstances*. Traditional assignments turned in late will be penalized 20% for each day they are late; if a forecast discussion is not submitted within 12 hours of the due time, it will receive a grade of zero. Not completing homework assignments on a regular basis is the most efficient way to risk failing this class.

Weather Briefings: Beginning during the second week of classes, students will take turns leading the weather briefings at the beginning of class. The briefings should be approximately 20 minutes in length and focus on weather of national significance and in the local area. Briefings that not only thoroughly and accurately describe the current weather, but also discuss its causes will receive the highest scores. Additionally, students will be given a specific forecast problem to address during their briefings. During the next class, students will need to verify these forecasts and determine the reasons for forecast failure, if any.

Class Project: During the semester, students will complete a class project related to forecasting of a specific topic and complete a paper on this. More information on this will be given later in the semester.

Exams: There will be one in-class midterm exam during the semester and a cumulative final exam held during the final exam period. **You are required to take exams during the scheduled time. Exams cannot be made up except in extremely unusual circumstances and absolutely must be cleared with me in advance.**

Tentative Exam Dates: Midterm Exam TBA
Thursday, December 18, 8:00-11:00am (Finals Week)

Grading: Your grade will be calculated as follows:

15% Mid-Term Exam I	A+	> 97%	C	72 - 77%
20% Final Exam	A	92 - 97%	C-	70 - 71%
10% Weather Discussions	A-	90 - 91%	D+	68 - 69%
40% Homework Assignments	B+	88 - 89%	D	62 - 67%
10% Class Project	B	82 - 87%	D-	60 - 61%
5% WxChallenge	B-	80 - 81%	F	< 60%
	C+	78 - 79%		

If you regularly attend class, complete your homework assignments, forecast for the contest, and prepare for your exams, you should not be in danger of failing this class.

WxChallenge: Participation in the WxChallenge is required in this class. For every city for which you fail to forecast on at least 6 of the 8 possible dates, your score will be lowered by one point out of the five possible. Additionally, every time you rank ahead of National Consensus at the end of a period, one extra credit point will be added to your score.

For more information on the WxChallenge, please visit <http://www.wxchallenge.com>. Please contact me for more information, including on how to sign up for the contest. The contest resumes on Monday, September 29, and the registration deadline is Friday, September 26. You must register by the deadline in order to participate in the WxChallenge.

Class Participation: The best learning environments are when students participate actively in the class discussions via asking questions and contributing knowledge. Active participation in weather briefings and lectures is crucial to the development of your forecasting skills. If you have a good reason for missing class (i.e., illness, conference travel, etc), please email me before class and you will be excused from class that day. It will be your responsibility to get any class notes from another student in class. If you are writing to be excused from class, please also inform me if you wish to be excused from that day's forecasting contest. If you have a poor excuse for missing class (i.e., oversleeping), you will receive a grade of zero for that day's activities if they are not submitted on time.

COURSE POLICIES

Email: I will strive to answer all student emails in a timely matter. Email should be reserved for quick questions, especially after hours. If you have a more significant question or other problem, do not hesitate to stop by my or office during office hours or to make an appointment. Please include "ATMS-491" in the subject line when emailing me.

Respect: You will treat other students and the instructor with respect and will ensure that the classroom is a good learning environment free from disruptions such as extraneous conversation and *the ringing of cell phones*. The use of classroom or lab computers for non-class related activities, **including Facebook**, is not permitted during class time. Please come to class on time. If you must come to class late or leave early, please do so without disrupting the class. Each class will start and end on time.

Academic Integrity: Students are permitted work together on homework assignments, but the final product must be your own; students turning in assignments that are blatantly copied will receive no credit. You are expected to complete your exams independently. Failure to do so will result in strict disciplinary action. Please see http://www.uiuc.edu/admin_manual/code/rule_33.html for more information.

Special Needs: To insure that disability-related concerns are properly addressed from the beginning of the course, students with disabilities who require reasonable accommodations to participate in this class are asked to see the instructor as soon as possible in accordance with university policy. For more information, please visit http://www.uiuc.edu/admin_manual/code/rule_4.html