

7 February 2024

MEMORANDUM

TO: Graduating Seniors in Atmospheric Sciences
FROM: Atmospheric Sciences Faculty
SUBJECT: Senior Comprehensive Examination

All graduates from the Department of Atmospheric Sciences must demonstrate competency in the major through the completion of a computer programming course, a satisfactory score on a written comprehensive exam, and a demonstration of public speaking skills. Successful completion of ATMS 230, CSCI 183, or ATMS 373 (Python) as part of the regular curriculum satisfies the computer programming competency. This memorandum describes how to satisfy the remaining competency requirements for a major in atmospheric sciences.

Comprehensive Examination

The **closed book** written comprehensive examination consists of two separate sections. The first section tests your general comprehension of core topics in the atmospheric sciences. All 60 multiple choice or fill-in-the-blank questions derive from courses that every atmospheric sciences major must complete, regardless of concentration. The second section comprises questions that require multistep calculations or more detailed responses. This section includes two questions based on material from common courses in the core curriculum and two additional specialized questions specific to your concentration. Students in the broadcast and weather forecasting concentrations will answer the “Forecasting” questions and students in the climatology concentration will answer the “Climatology” questions. With sufficient notice to your department chair (Dr. Godfrey), those with dual concentrations may choose which set of questions to answer.

Within the next two weeks, you will receive access to a Moodle page containing relevant notes, topics to help you focus your study, and an equation sheet with important constants. The department will provide this same equation sheet on the day of the exam. We allow and encourage the use of a calculator. To pass the comprehensive exam, students must earn a score of at least 70% on each of the two sections. The score for the second section is the average score for all four questions. The exam will take place in RRO 238 on **Friday, 29 March 2024** between **1:30 and 5:00 p.m.** Administration of each section will take place separately with a short break in between.

Public Speaking

Students may demonstrate their mastery of public speaking skills, or oral competency, for the major through one of the following options:

1. Satisfactory completion of a formal weather briefing for faculty and other students.
2. An oral presentation of original scientific research at a UNC Asheville research symposium during the junior or senior year. The presentation must be witnessed and evaluated by at least one faculty member in the Department of Atmospheric Sciences.

3. An oral presentation of original scientific research at a professional conference (e.g., AMS, AGU, NWA, NCUR, SLS, SAWC Workshop, or similar). At least one faculty member must be present or a recording made available.
4. Any other significant oral presentation with approval by the faculty.

Students who intend to fulfill this requirement via option 1 will present a weather briefing that will demonstrate fluency in operational meteorology and the ability to communicate to the public. Limit each weather briefing to fifteen minutes plus necessary time for questions. On the day of the weather briefing, students will have exactly two hours to access relevant data and imagery from a pre-selected case study and prepare the presentation. All weather briefings will occur on **Friday, 19 April 2024** in RRO 238. Your ATMS 411 instructor will share additional instructions, including a grading rubric, and assign specific times for each weather briefing beforehand. The average score from all faculty members will determine the grade for the weather briefing. A passing score is 70%.

Students who intend to fulfill this requirement via options 2 through 4 must receive written approval by the department chair prior to the date of the weather briefing. Note that poster presentations do not satisfy the public speaking requirement. **All students** must complete the attached request for approval to indicate how they plan to satisfy the public speaking graduation requirement and return the form to Dr. Godfrey by **Friday, 22 March 2024**.

Examination Retakes

Students who receive a grade of less than 70% on either section of the written exam will have one opportunity to retake the exam on **Friday, 5 April 2024** between **1:30 and 5:00 p.m.** Students need only retake sections with an original score of less than 70%. The first section of the make-up exam consists of 40 repeated questions from the original exam and 20 new questions. On the second section of the exam, two new questions will replace a question from both the core and specialized portions of the exam and the other two questions will remain the same. The make-up exam requires completion of all four questions, regardless of the original score on individual questions. The average score earned on all four questions of the second section of the make-up exam will determine the final score for that section.

Those with a weather briefing grade of less than 70% will have one additional opportunity to earn a passing grade. Faculty will work with students to schedule a make-up weather briefing for a new case study. Please practice your weather briefing skills and prepare a template beforehand so that you do not fail this portion of the exam.

A second failure on either the written or oral portions of the comprehensive examination will prevent a student from graduating in Spring 2024. In such cases, students must register for the Summer 2024 term and pay the corresponding tuition and fees in order to attempt to satisfy the major competency.

Please do not hesitate to ask questions or seek clarification on the process for fulfilling your major competency. Your professors look forward to celebrating your success as you advance toward graduation!

Happy studying,

Drs. Douglas Miller, Evan Couzo, Caitlin Crossett, and Christopher Godfrey

Request for Approval: Public Speaking Graduation Requirement

Name: _____

Today's Date: ____ / ____ / ____

Expected Graduation Date: _____

ATMS Concentration (if more than one, list the one you want to be tested on): _____

Do you intend to give a weather briefing to satisfy the public speaking requirement? Yes / No

If you answered "Yes", no further response is required. If you answered "No", please continue below.

Tell us how you will satisfy the public speaking requirement (circle one).

I already presented my research.

I will present at the UNC Asheville Spring Symposium.

I will present my research at a professional conference. Other (explain below).

If you already made a presentation, tell us about it:

Venue: _____

Date: _____

Conference: _____

Was it witnessed by a member of the Atmospheric Sciences faculty? Yes / No

Did you present original research? Yes / No

If no, please describe the topic of your presentation.

If you will present at the UNC Asheville Spring Symposium or at an upcoming professional conference, please list the name of the conference and the date of the presentation.

Please send your presentation (e.g., PowerPoint slides) and/or a link to the recording to Dr. Godfrey (cgodfrey@unca.edu). **Do not consider your public speaking requirement fulfilled until you have received written confirmation from the department chair.**