

MASTER OF SCIENCE IN ATMOSPHERIC SCIENCE, PLAN A

Requirements Effective Fall 2025

A minimum of 30 semester credits and a high-quality original research project are required. At least 19 credits must be earned in the structured academic courses. 11 credits may be in special studies, graduate seminars, and research (a maximum of 11 research credits is allowed). Of the total 30 credits, 20 must be Department of Atmospheric Science courses (i.e., courses with the ATS prefix).

Colloquium participation

All graduate students enrolled in the department are expected to attend the weekly department colloquium series. Colloquia are normally held once per week when classes are in session during the Fall and Spring Semesters.

Thesis requirements

MS Plan A students are required to complete a Master's thesis based on their research. The work is expected to be of publication quality.

Oral presentations

Students are required to give a public oral presentation based on their MS thesis. The presentation and following question period are expected to last about one hour.

Competency exams

Following the public oral defense of the Master's thesis, the student will meet privately with their M.S. committee. This session typically lasts less than one hour and is intended for the committee to ask questions related primarily to the thesis work.

Once the question-and-answer session concludes, the student will be asked to leave the room. The committee will then discuss the quality of the thesis, the oral presentation, and the student's answers to the oral questions in the private meeting.

To pass the defense, the student must demonstrate high scientific quality in the thesis work, the clarity in the oral presentation, and thoughtful responses to the committee's questions. If concerns arise regarding the student's performance, the committee may require the student to complete additional work. The nature and the scope of this work will be determined on a case-by-case basis. A submission deadline will be specified, and a follow-up meeting may be requested at the committee's discretion.

The committee will determine the outcome of the defense (pass, partial pass, or fail). Additionally, as part of the evaluation process, the committee will provide a recommendation regarding the suitability of the student for admission to the PhD program, should the student wish to pursue it. This recommendation will be submitted to the Department Head.

Internships or practicum experiences

No internships or practicum experiences are required.

Teamwork expectations

Students are expected to work collaboratively on co-authored publications as appropriate for their research topic.

Code	Title	Credits
Required Coursework: ¹		
ATS 601	Atmospheric Dynamics I	2
ATS 606	Introduction to Climate	2
ATS 620	Thermodynamics and Cloud Physics	2
ATS 621	Atmospheric Chemistry	2
ATS 622	Atmospheric Radiation	2
ATS 640	Synoptic Meteorology	2
or ATS 641	Mesoscale Meteorology	2
ATS 693	Responsible Research in Atmospheric Science	1
Elective credits of ATS 5XX-6XX ²		6
Research/Thesis (ATS 699) Credits ^{3,4}		11
Program Total Credits:		30

A minimum of 30 credits are required to complete this program.

¹ A student may substitute a required class for an alternative course if:

- A course similar to the required class has already been completed at the graduate level with a grade of B or higher.

- The student's advisor, the department head, and the instructor of the required course approve the substitution in writing.

² Electives must be regular courses; all courses ending in the range -82 through -99 do not meet the electives requirement. Electives may include any structured class at the 500/600 level. With *written* instructor and advisor approval, electives may also include structured 700 level classes and/or structured graduate courses in other departments.

³ Students will select their advisor's section of ATS 699.

⁴ Students are expected to enroll in 15 credits each semester and will therefore earn more than 11 thesis credits.