

Proposal for Concurrent BS and MS degrees in Meteorology

1. Name of programs or majors: Meteorology

2. Name of Degrees: BS and MS (the proposed option will be “Concurrent BS and MS in Meteorology”)

3. Geological and Atmospheric Sciences

4. There are several reasons for adding this concurrent degree option:

- The program regularly has a small group of talented students who would be successful in this program, as evidenced by the quality of some senior theses that are required for the BS degree already approaching graduate level work
- The job market changes make the MS necessary for some positions, particularly for the National Weather Service, which is often the most popular choice for our incoming students who want to focus on weather forecasting.
- This pathway may be attractive when recruiting new students in Meteorology.
- The curriculum pathway would not reduce the rigor of the MS program or the outcomes students achieve.
- This pathway to graduation creates an opportunity for students with no new costs.
- A few of our peer institutions (e.g., Penn State) offer such a pathway.

5. Students wishing to pursue the concurrent degrees would be required to fill out the necessary forms by February 1 of their junior year. The faculty would review the form in the same manner that they do applications for normal MS candidates. We already do not require students possessing a BS in Meteorology from Iowa State to take the GRE test, so this same exemption would apply. These students would need to have at least a 3.4 GPA, adequate grades in calculus and physics courses, and evidence of potential to do graduate-level research. Upon acceptance, the student’s undergraduate adviser will meet with the student to discuss research interests, and the student will be directed toward faculty members having expertise in that area to discuss the ability of those faculty to serve as major professor(s).

6. Students seeking the concurrent BS and MS degrees will have the BS requirement for 2 credits of Mteor 499 (senior thesis) waived. Instead, the student will take 2 credits of Mteor 590 (Special Topics) during spring semester of year 4 to engage in research toward the Master’s thesis. If such students decide during fall semester or spring semester to drop the pursuit of the concurrent MS degree, the 2 credits of Mteor 590 will count instead of Mteor 499 to allow the student to receive the BS degree alone. This is the only change that will be made to the BS requirements. The student will end up with 30 credits applied to the MS degree, and is usual in Meteorology, 18 of the credits will be from structured courses, with 12 or more credits of Mteor 699 taken while the student does research for the Master’s thesis. It is anticipated that these 12 credits of research will come during year 5, and possibly also during summer between year 4 and 5. The student will defend their MS research by the end of year 5.

7. Expected enrollment is 2-4 students per year (2-4 students entering the concurrent program every year).

8. a. As mentioned above, the BS plan is the same as with all other BS-only students, except for the substitution of Mteor 590 in place of Mteor 499. The graduate program of study will be developed during fall of year 4, which effectively will be much like the first semester of the normal 2 year MS program.

b. The major professor will be assigned shortly after a student is accepted into the concurrent program, either by the end of year 3, or during fall of year 4.

c. Graduate assistantships will not be guaranteed, but these students will be considered the same as other graduate students, and following policies in the University catalog, would be eligible for available for RAs and TAs in their last two years of study.

d. A thesis is required.

e. The chair of the Graduate Applications Committee, currently Dr. Gallus, will be responsible for administration of the program.

f. The concurrent degrees can be completed in 5 years (1 year beyond a BS). A sample semester by semester plan is shown below (for years 4 and 5 as nothing would be different from the normal BS plan in earlier years):

Fall Year 4	Spring Year 4	Fall Year 5	Spring Year 5
Mteor 543 (3 cr)	Mteor 417 (3 cr)	Mteor 542 (3 cr)	Mteor or related (3 cr) Grad course
Mteor 411 (3 cr)	Mteor 432 (3 cr)	Mteor 699 (6 cr)	Mteor 699 (9 cr)
Mteor 454 (3 cr)	Mteor Elective (3 cr)	Mteor or related (3 cr) Grad course	
Mteor Elective (3 cr) at 500-level	Mteor Elective (3 cr) at 500-level		
Gen Ed elective (3 cr)	Gen Ed elective (3 cr)		
	Mteor 590 (2 cr)		

Note: The above plan is valid for even years; for odd years, Mteor 543 and 542 would switch places. The Mteor electives at the 500-level during year 4 would be the 6 credits that are double counted. The total number of credits applied to the BS remains the same as for students only seeking a BS. At least 30 credits are applied for the MS (the above sample plan would provide exactly 30 credits, but students will be encouraged to enroll and earn 699 research credits in the summer between years 4 and 5, which would result in a total exceeding 30 credits).

g. 6 credits will be double counted.

9. Memos showing approval by the department and college: Attached below

10. Contact: William A. Gallus, Jr., 3025 Agronomy, 294-2270, wgallus@iastate.edu

MEMORANDUM

Date: 19 September 2018
From: Dr. James Aanstoos, chair GE-AT Curriculum Committee
Subject: Proposal for Concurrent BS and MS degrees in Meteorology

I wholeheartedly support and approve the proposal for an option for Meteorology students to pursue a concurrent BS and MS degree. This option would enable good students who might not otherwise pursue grad school to earn the Master's degree with nominally only one more year of study. Some of our current students have expressed interest in such an option, and it would be rather easy to implement due to the fact that our BS program currently requires a significant independent research activity and several of our courses are dual-listed.

