

# METEOROLOGY, BACHELOR OF SCIENCE (578)

## Program Coordinator

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The B.S. in Meteorology degree at WKU is the first and largest meteorology program in Kentucky or Tennessee that meets all the Federal Civil Service requirements (GS-1340) for employment by the National Weather Service and enables TV broadcast meteorologists to immediately pursue the "Certified Broadcast Meteorologist" program of the American Meteorological Society upon graduation. In addition to preparing students for immediate employment as meteorologists, the combination of advanced theoretical and applied coursework as well as experience with meteorological instrumentation and computer programming will provide a foundation for students who wish to pursue graduate school in the atmospheric sciences. Students will become more directly involved in faculty-sponsored research, increased co-authorship of peer-reviewed research articles, and increased presentation of research results at professional meetings and conferences.

Students will also have the opportunity to work for White Squirrel Weather (WSWX), which acts as the WKU weather service, where students make weather observations and weather forecasts to provide decision support to a variety of WKU entities, including WKU Athletics, Environmental Health and Safety, and WKU Admissions.

## Program Requirements (50 hours)

A baccalaureate degree requires a minimum of 120 unduplicated semester hours. More information can be found at [www.wku.edu/registrar/degree\\_certification.php](http://www.wku.edu/registrar/degree_certification.php). ([https://www.wku.edu/registrar/degree\\_certification.php](https://www.wku.edu/registrar/degree_certification.php))

Students who began WKU in the Fall 2014 and thereafter should review the Colonnade requirements located at: <https://www.wku.edu/colonnade/colonnaderequirements.php>. (<https://www.wku.edu/colonnade/colonnaderequirements.php>)

The major in Meteorology leads to a Bachelor of Science in Meteorology and requires a minimum of 50 semester hours of meteorology, geography, GIS, and computer science. A minor program is not required. Other required courses in physics and mathematics total an additional 25 semester hours. Students majoring in meteorology will learn the key concepts and skills necessary to qualify as a meteorologist for the National Weather Service, and to meet the standards of the American Meteorological Society.

## Required Courses

Code	Title	Hours
METR 121	Meteorology	3
METR 122	Aviation Meteorology	3
CS 170	Problem Solving and Programming	3
GEOG 300	Writing in the Geosciences	3
GISC 316	Geographic Information Systems I	4
METR 324	Weather Analysis and Forecasting	3
GEOG 391	Geoscience Data Analysis	4
METR 431	Dynamic Meteorology I	3

METR 432	Synoptic Meteorology	3
METR 433	Dynamic Meteorology II	3
METR 437	Mesoscale Meteorology	3
METR 438	Physical Meteorology	3

### Meteorology Technique Course

METR 325	Meteorological Instrumentation and Measurement	3
or METR 335	Satellite/Radar Meteorology	

**Total Hours** 41

## In addition to the required courses, select 9 hours from any 200-level or above METR course

Code	Title	Hours
<b>Suggested courses include:</b>		<b>9</b>
METR 322	Global Climate Systems	
METR 325	Meteorological Instrumentation and Measurement	
METR 326	Applied Meteorology / Climatology	
METR 335	Satellite/Radar Meteorology	
METR 422	Physical Climatology	
METR 425	Field Methods in Severe Weather Analysis and Forecasting	
METR 430	Meteorological Computing	
METR 439	Atmospheric Modeling	
METR 460	Climate Teleconnections	
METR 475	Selected Topics in Meteorology	

**Total Hours** 9

## Additional Courses Required Outside of the Major

Code	Title	Hours
PHYS 255 & PHYS 256	University Physics I and University Physics I Lab	5
PHYS 265 & PHYS 266	University Physics II and University Physics II Laboratory	5
MATH 136	Calculus I	4
MATH 137	Calculus II	4
MATH 237	Multivariable Calculus	4
MATH 331	Differential Equations	3

**Total Hours** 25

## Finish in Four Plan

### First Year

Fall	Hours	Spring	Hours
METR 121		3 MATH 137	4
ENG 100		3 METR 122	3
MATH 136		4 HIST 101 or HIST 102	3
GEOG 110		3 COMM 145	3
GEOG 175		2 ENG 200	3
		<b>15</b>	<b>16</b>

### Second Year

Fall	Hours	Spring	Hours
MATH 237		4 MATH 331	3
CS 170		3 METR 324	3
GISC 316		4 World Language or Elective	3

GEOG 226	3	Colonnade - Social & Behavioral	3
		General Elective	3
	<b>14</b>		<b>15</b>
<b>Third Year</b>			
<b>Fall</b>	<b>Hours</b>	<b>Spring</b>	<b>Hours</b>
METR 431		3 METR 433	3
GEOG 300		3 Colonnade - Arts & Humanities	3
METR 335		3 METR 438	3
PHYS 255 & PHYS 256		5 PHYS 265 & PHYS 266	5
METR Elective		3	
	<b>17</b>		<b>14</b>
<b>Fourth Year</b>			
<b>Fall</b>	<b>Hours</b>	<b>Spring</b>	<b>Hours</b>
METR 432		3 METR 437	3
GEOG 391		4 METR Elective	3
Colonnade - Connections		3 Colonnade - Connections	3
METR Elective or Independent Research		3 Colonnade - Connections	3
METR 325		3 General Elective	1
	<b>16</b>		<b>13</b>

**Total Hours 120**

- 120 Hours total are required in the program, with 42 hours at the 300/400 level.
- Summer courses, including Study Abroad, Field Camps, and other independent research opportunities, can reduce the number of hours required in the regular semesters.
- Any of the courses can be moved from semester to semester to take advantage of courses when offered.
- The WKU Colonnade Program requires a minimum of 39 hours, with several required courses in the Geography program that can be double-counted. METR/GEOG courses marked \* count for Colonnade Credit.
- Colonnade Connections courses are restricted to Juniors/Seniors, unless 21 credit hours of Colonnade Explorations and Foundations courses have already been completed. Three disciplines are required for Connections credit (METR, GEOG, GEOL, and GISC count as separate disciplines).

REQUIRED IN THE MAJOR (48 hours): **CORE COURSES** = METR 121\*, 122, CS 170, GEOG 300\*, 391, METR 324, 431, 432, 433, 437, GEOG 499 (36 hours); **ELECTIVE COURSES** = any 12 hours of approved METR or equivalent coursework; **PLUS** PHYS, 255 256, 265, 266, MATH 136\*, 137\*, 237, 331.