Facilities at Western Kentucky University

WKU is home to the Kentucky Mesonet, a high-density, meso-scale network of research-grade automated environmental monitoring stations currently being developed across the commonwealth. The continuously updated, locally accurate climatological data is available to the agricultural industry as well as decision makers who must respond to extreme weather events such as tornados, floods, or ice storms.

WKU has been home to the Kentucky Climate Center since 1978. The Kentucky Climate Center is the State Climate Office for Kentucky and home to the State Climatologist, Dr. Stuart Foster. The mission of the Kentucky Climate Center is to conduct research and disseminate information of climatic variability and change, influences of the natural environment upon human activity, and impacts of human activity upon the natural environment.

Department of Geography 
& Geology

Bachelor of Science in Meteorology

Careers in Meteorology

Students who complete the B.S. in Meteorology degree at Western Kentucky University will be able to pursue careers that include the following:

- Weather forecasting
- Aviation forecasting
- Broadcast meteorology
- Pollution forecasting
- Commodity/Energy forecasting

Students who enter graduate school and pursue a M.S. or Ph.D. in the Atmospheric Sciences will be able to pursue careers that include the following:

- University professor
- Climate change research
- Atmospheric modeling
- Paleoclimatology
- Consulting

For more information contact:
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The B.S. Meteorology program requires a minimum of 48 semester hours of meteorology, geography, and computer science courses. A minor is not required. Other required courses in physics and mathematics total an additional 25 semester hours. Students majoring in meteorology will learn the concepts and skills necessary to qualify as a meteorologist for the National Weather Service, and to meet the professional standards of the American Meteorological Society.

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.

A unique component to the program includes the course, *Field Methods in Weather Analysis and Forecasting*, which won the 2010 “Creativity and Innovation Award” from the North American Association for Summer Programs. The field course provides practical capstone learning experience that enhances student learning and retention of weather and climate beyond a traditional classroom setting by predicting, analyzing, and documenting severe convective and hazardous storms across the central United States. As a result each student considerably improves critical skill sets in order to become a successful meteorologist.

### B.S. Meteorology curriculum

**Effective Fall 2014**

**Required courses (36 credit hours)**
- METR 121 Introduction to Meteorology
- METR 122 Aviation Meteorology
- CS 170 Problem Solving/Programming in Python
- GEOG 300 Writing in the Geosciences
- GEOG 316 Fundamentals of GIS
- METR 324 Weather Analysis and Forecasting
- GEOG 391 Spatial Data and Analysis
- METR 431 Dynamic Meteorology I
- METR 432 Synoptic Meteorology
- METR 433 Dynamic Meteorology II
- METR 437 Mesoscale Meteorology
- GEOG 499 Professional Preparation

**Elective courses (12 credit hours)**
Select from any METR 2xx-4xx courses, with your advisor, (examples include 322, 325, 335, 422, 438, 439, 440) to meet the 48 unduplicated hours requirement.

**Other requirements (25 credit hours)**
- MA 136 Calculus and Analytical Geometry I
- MA 137 Calculus and Analytical Geometry II
- MA 237 Multivariable Calculus
- MA 331 Differential Equations
- PHYS 255/256 University Physics I
- PHYS 265/266 University Physics II

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The B.S. in Meteorology degree offered by WKU was the first meteorology program in Kentucky or Tennessee to meet all 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.

Since 1928, when the College Heights Weather Station was founded on campus, WKU has been a focus for the study of weather and climate in the region. This Station together with the Kentucky Climate Center, have established a long tradition of outreach and assistance in the Mid-South region.