The discipline of meteorology is the study of the physical characteristics of the lower atmosphere and processes that are responsible for generating the weather. Students who complete the major are exposed to concepts, methodologies, and practical applications related to both weather analysis and forecasting.

The core of the degree includes courses in synoptic meteorology (the study of atmospheric circulation, weather forecasting and weather map analysis), and dynamic meteorology (atmospheric gases, and how these drive motion heat exchanges). Through this structure, students learn how to forecast weather and use specialized equipment including instruments along with reporting techniques associated with weather observations, weather radar, and remotely sensed (e.g., satellite) information.

The objectives of the bachelor’s degree include in-depth study of meteorology to serve as the culmination of a science education, preparation for graduate education, and/or preparation for professional employment in this field. All the non-introductory meteorology courses have relatively small class sizes (typically 15-25 students). Such low student to teacher ratios allow for a great deal of interaction with the instructors, all of whom hold a Ph.D.

The department has several instruments and facilities to enhance the student experience including a weather station, weather radar, a weather laboratory, and a Geographical Information Systems (GIS) laboratory. The department has ongoing contracts with AccuWeather and DTN/Kavouras to acquire real-time weather data, including Doppler radar data.

The structure of the Meteorology degree at Western Illinois University meets the requirements for certification as a meteorologist by the National Weather Service.

www.wiu.edu/geography
Degree Requirements

University General Education and Collage of Arts and Sciences Curriculum Requirements (55 sh):
Including:
Math 133 Calculus with Analytic Geometry I (4 hrs)
Math 134 Calculus with Analytic Geometry II (4 hrs)
Phys 211 University Physics I (Forces and Motion 4 hrs)

Core Courses (27 sh):
Geog 120 Introduction to Weather and Climate (4 hrs)
Geog 301 Introduction to Quantitative Geography (3 hrs)
Geog 322 Synoptic Meteorology I (3 hrs)
Geog 327 Climatology (3 hrs)
Geog 329 Dynamic Meteorology I (3 hrs)
Geog 405 Research Methods (2 hrs)
Geog 422 Synoptic Meteorology II (3 hrs)
Geog 429 Dynamic Meteorology II (3 hrs)
Geog 432 Physical Meteorology (3 hrs)

Directed Electives (8 sh):
Choose one from:
Geog 300 Principles of Meteorological Instruments (3 hrs)
Geog 403 Remote Sensing (3 hrs)
Geog 425 Satellite and Radar Meteorology (3 hrs)

Choose two that were not selected above:
Geog 220 Severe and Unusual Weather (2 hrs)
Geog 300 Principles of Meteorological Instruments (3 hrs)
Geog 333 Meteorological Data Analysis (3 hrs)
Geog 403 Remote Sensing (3 hrs)
Geog 425 Satellite and Radar Meteorology (3 hrs)
Geog 430 Natural Hazards (3 hrs)
Geog 497 Internship in Applied Geography (3 hrs)

Other Requirements (14-15 sh):
Math 231 Calculus with Analytic Geometry III (4 hrs)
Math 333 Ordinary Differential Equations (3 hrs)
Phys 213 University Physics III (Thermodynamics 4 hrs)

Plus one course from:
Chem 201 Inorganic Chemistry I (4 hrs)
Geol 115 Oceanography (3 hrs)
Geol 380 Hydrogeology (4 hrs)
Phys 354 Thermodynamics (3 hrs)

Any Minor (16-24 sh)

Department of Geography
1 University Circle
Tillman Hall 312
Macomb, IL 61455-1390
Phone: (309) 298-1648
Fax: (309) 298-3003
E-mail: Geography@wiu.edu