

Course Descriptions

GEG 101 World Natural Environments:

Nature of Geography; earth-sun relationships; map interpretation; and classification, distribution, and origins of the major elements of the natural environment (climates, soils, natural vegetation, and landforms).

GEG/GES 241 Meteorology:

An introduction to weather, including the makeup of the atmosphere, seasonality, heat and radiation balance, temperature, moisture and atmospheric stability, air pressure and wind, air masses and weather patterns, severe weather, instrumentation, local weather, as well as weather analysis and synoptic forecasting. Includes laboratory modules.

GEG 303 - Global Climatology:

A study of the Earth's climate through an analysis of climatic controls, classification schemes and feedback cycles. Includes an examination of past global climates and global climate change scenarios.

GEG 382 – Weather Forecasting:

A focus on synoptic and dynamic meteorology, as applied to weather forecasting. Students learn how to develop and present weather forecasts. Emphasis is on practice, and interpretation of daily weather and modeled data.

GEG 383 Severe and Unusual Weather

Meteorological phenomena related to severe and unusual weather-related events, weather-analysis tools, climate-change outlooks, social implications, as well as planning and management strategies

GEG 384 Atmospheric Science:

Study of the Earth's atmosphere. Emphasis is on atmospheric structure and composition, dynamics of motion, moisture and clouds, atmospheric chemistry, regional and local air pollution, aurora displays, and optical phenomena. .

GEG 386 Applied Meteorology:

Use of meteorological information in various aspects of our lives to solve practical problems with environmental, social, and economic implications.

GEG 415 Paleoclimatology:

An overview of the methods used to reconstruct the Earth's climate history and environmental changes. Emphasis will be given to the climatic changes during the past 2 million years - time of the ice ages.

GEG 480 - Air Pollution Modeling

Study of receptor, dispersion, and risk assessment modeling to determine the source, fate, and impact of air pollutants



Fun in the Meteorology Lab

Opportunities

You will be part of a small group of students receiving individual attention, and opportunities not available to students in larger programs. The department's focus is on obtaining skills and applied experiences. You will have the opportunity to work in a meteorology lab, to attend presentations and conferences, to take part in weather-related field trips, and to become involved with the Western New York Chapter of the AMS. You are encouraged to become active, whether with the Meteorology Club, as a Snowspotter for the Buffalo Weather Office, or as a broadcast meteorologist for BSC Cable 2 TV. Numerous opportunities exist for internships, independent study, and research.

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Training Provided
by the NWS.



Contact Information

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A WESTERN NEW YORK
OPTION

Meteorology & Climatology



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Department of
Geography and Planning

Buffalo State

Why Buffalo State and Geography?

The Geography and Planning Department provides you with a meteorology and climatology focus within the Geography Physical Concentration. Geography majors obtain a firm grounding in the skills related to the analysis of location and spatial patterns. Geographers are interested in how things are arranged spatially, how they came to be arranged that way, and how that information can be used to solve current problems and anticipate future patterns. These are problem-solving skills that are sought after in almost every field of employment. Geography provides an excellent context to study meteorology and climatology. Our emphasis is on application in meteorology and climatology, providing the you with a broad experience and a level of expertise to obtain employment in weather sensitive businesses or to enter graduate school in fields related to meteorology and climatology. We have a close working relationship with the Buffalo Office of the National Weather Service, and local television stations.

You may choose to 'test the waters' toward a four-year meteorology degree, offered at other colleges, by first taking a few meteorology and climatology courses offered at Buffalo State. Employment with the National Weather Service usually requires a four-year meteorology degree.

You may decide to enroll in the Meteorology and Climatology Minor. The minor may add a useful dimension to your major (e.g. communication majors preparing as broadcast meteorologists), positioning you for an alternative career option, or taken simply because you have an interest in weather.

Our graduates have been employed by consulting firms, government agencies, and television stations.

Geography B.A. Degree (Physical Geography Concentration with a focus on meteorology and climatology)

Required Courses:

GEG101 World Natural Environments
GEG102 Human Geography
GEG199 Computers in Social Science
GEG241 Meteorology (or GES241)
PLN 325 Map & Air Photo Interpretation
GEG390 Quantitative Methods
GEG430 Senior Thesis

Select one course:

SOC300 Methods in Social Research
PSC300 Political Analysis

Select one course:

GEG357 Buffalo and Niagara Frontier
GEG359 Arctic Geography
GEG360 Geography of Asia
GEG362 Geography of U.S. & Canada
GEG364 Geography of Europe

Select four courses (by advisement):

GEG303 Global Climatology
GEG375 Principles of Hydrology
GEG382 Weather Forecasting
GEG383 Severe and Unusual Weather
GEG384 Atmospheric Science
GEG386 Applied Climatology
GEG415 Paleoclimatology
GEG478 Global Change
GEG480 Air Pollution Modeling
GEG488 Internship



Meteorology Lab

Geographic Information System (GIS) meteorology is a growing field. Take a fundamental GIS course with us!



Student Research

Meteorology & Climatology Minor (18 credits)

Required Courses:

GEG101 World Natural Environments
GEG241 Meteorology (or GES241)

Choose three from the following:

GEG303 Global Climatology
GEG382 Weather Forecasting
GEG383 Severe and Unusual Weather
GEG384 Atmospheric Science
GEG386 Applied Climatology
GEG415 Paleoclimatology

Choose one from the following :

Any course not selected from above
GEG375 Principles of Hydrology
GEG480 Air Pollution Modeling
GEG478 Global Change
GEG488 Internship
GEG499 Independent Study



Lake Erie Met. Tower

Every February 2nd we travel to Punxsutawney, PA to celebrate Groundhog Day.

Meteorology & Climatology Faculty

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Professor, Geography & Planning

Member of the American Meteorological Society and
National Weather Association

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