

# WEATHER FORECASTING, CERTIFICATE

Requirements for an undergraduate certificate may be completed at any campus location offering the specified courses for the certificate.

## Program Description

Students in this program will have an opportunity to become a better-informed, critical consumer of weather-related news. Students will also have a chance to use powerful, web-based forecasting tools. There are no formal calculus or physics requirements for entrance to the program.

## What is Weather Forecasting?

Weather forecasting uses science (understanding of atmospheric processes) and data (such as temperature, humidity, precipitation, and wind) to predict future weather conditions. Use the program's innovative forecasting techniques and conceptual approaches to learn about meteorology, enrich your hobby, supplement your professional career, or build a preparatory foundation for future study or work. As a student in this program, you will have the opportunity to become a better-informed, critical consumer of weather-related news. Whether you are an amateur weather enthusiast or a weather-related industry professional, enrolling in this 12-credit certificate program can help you refine your skills to predict the weather more effectively.

## You Might Like This Program If...

- You are a weather enthusiast seeking a preparatory foundation in order to pursue an undergraduate degree in meteorology.
- You are a communications major looking for a stepping stone into the broadcasting profession.
- You are a secondary school teacher who aspires to enhance your understanding of meteorology.
- You are a sailing enthusiast or pilot who relies on meteorological data to chart courses or plan flights.
- You are in a business that is affected by weather and want a deeper understanding of meteorology.

## Program Requirements

To earn an undergraduate certificate in Weather Forecasting, a minimum of 12 credits is required.

Code	Title	Credits
<b>Prescribed Courses</b>		
METEO 101	Understanding Weather Forecasting	3
METEO 241	Fundamentals of Tropical Forecasting	3
METEO 361	Fundamentals of Mesoscale Weather Forecasting	3
METEO 410	Advanced Topics in Weather Forecasting	3

No Prerequisites Required.

## Certificate Learning Objectives

- **Forecaster:** Student will be able to produce value-added (an improvement on guidance) point forecast including high/low temperature, wind speed, and precipitation.
- **Global Awareness:** Student will demonstrate awareness of significant global weather events and seasonal climate features.

- **WX Analyst:** Student will be able to analyze synoptic and mesoscale weather events of varying complexity by referencing proper terminology and processes.
- **WX Communicator:** Student will be able to demonstrate knowledge of current weather either generally or at a specific location via verbal or written communication.
- **WX Consumer:** Student will improve their skill at using and interpreting publicly available weather data.

## Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (<https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

## University Park

### Steven Seman

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## World Campus

### Undergraduate Academic Advising

100 Innovation Blvd  
Suite 225  
University Park, PA 16803  
814-863-3283  
[advising@worldcampus.psu.edu](mailto:advising@worldcampus.psu.edu)

## Career Paths

Learning innovative forecasting techniques in this online certificate program can help you learn about meteorology, enrich your hobby, supplement your professional career, or build a preparatory foundation for future study or work.

## Careers

Whether you are an amateur weather enthusiast or a weather-related industry professional, enrolling in this online certificate program is a perfect way to enhance your career or degree. Through the online meteorology courses that compose this 12-credit certificate program of study, you can build a foundational understanding of contemporary forecasting techniques.

MORE INFORMATION ABOUT POTENTIAL CAREER OPTIONS FOR GRADUATES WITH A CERTIFICATE IN WEATHER FORECASTING (<https://www.met.psu.edu/careers/>)

## Opportunities for Graduate Studies

A certificate in Weather Forecasting may provide the necessary background that leads you to pursue a degree in meteorology or another science-related field. If you obtain a B.S. in a science or engineering field, this may position you to apply for graduate school in some scientific disciplines, including atmospheric science.

MORE INFORMATION ABOUT OPPORTUNITIES FOR GRADUATE STUDIES (<https://www.met.psu.edu/graduate/prospective-graduate-students-ms-phd/>)

## Professional Resources

- Campus Weather Service (<http://campusweatherservice.com>)
- Weather Risk Management Club (<https://www.wxriskclub.org>)
- Penn State Branch of the American Meteorological Society and National Weather Association (PSUBAMS) (<https://sites.psu.edu/psubams/>)

## Contact

### University Park

DEPARTMENT OF METEOROLOGY AND ATMOSPHERIC SCIENCE  
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<https://www.met.psu.edu>

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<https://www.worldcampus.psu.edu/degrees-and-certificates/penn-state-online-weather-forecasting-undergraduate-certificate> (<https://www.worldcampus.psu.edu/degrees-and-certificates/penn-state-online-weather-forecasting-undergraduate-certificate/>)