

GRADUATE CERTIFICATE IN SPACE WEATHER AND ENVIRONMENT



PROGRAM OVERVIEW

Space Weather and Environment: Science, Policy and Communication (SWEN) is a fully online, five-course, 15 credit-hour graduate certificate program for any professional whose career may be enhanced with a greater understanding in this subject area. This could include broadcast meteorologists and other TV and social media weathercasters, emergency responders, military personnel, federal and state policy advisors, legislative assistants, science journalists or anyone with an interest in space weather. Guided by the National Space Policy of the United States of America, this program is an avenue for professional development and advancement for those seeking to deepen and broaden their knowledge base and understanding of the Earth-Sun-Space environment as well as the impact space weather can have on infrastructure, communication and commerce. If you are responsible for communication and power grids, transportation and navigation systems, including space-based assets, commerce and other infrastructure, we encourage you to consider this certificate program. Additionally, this program will assist individuals in being better prepared to communicate these issues to policymakers, stakeholders and the public. The international scope of the SWEN certificate program will help prepare individuals for positions in the government, private, commercial and academic sectors. The program should be especially interesting for broadcast meteorologists who are seeking to gain knowledge and proficiency in space weather to better communicate to their market audience, especially when they are the only station scientist. The courses are taught by experts who are working in their respective areas of space weather.

WHAT WILL YOU LEARN

Those who have completed the SWEN certificate program will possess the ability to:

- Demonstrate basic knowledge of natural or environmental hazards, including space weather hazards and associated risks.
- Describe solar and space weather phenomena, including but not limited to aurora, coronal holes, coronal mass ejections (CME), solar flares, sunspots, solar cycle, geomagnetic storms, characteristics of the magnetosphere and behavior of the interaction between different elements.
- Relate terrestrial impacts of space weather phenomena to existing and emerging fields, including the variety of customers, operations and infrastructure most vulnerable (e.g., impacts on power grids, satellite performance, pipeline corrosion, airline operations, public awareness).
- Organize existing protocols and design new protocols for preparing and responding to space weather events.
- Describe and apply the products, data and graphics to communicate for specific space weather events.
- Develop new video products that will communicate space weather to specific audiences.

