Meteorology Course Proposal

Unit One: Structure of the Atmosphere

- Layers of the Atmosphere
- Study of the Elements
- Ozone Layer
- lonosphere
- Light Interaction

Unit Two: Mechanisms of Weather System Formation

- Heat & Temperature
- Convection
- Air Pressure
- Humidity & Dew Point
- Cloud Formation and Water Cycle

Unit Three: Global Weather Patterns

- How Air Masses Form
- Biomes and Regional Climate
- Global Wind Patterns
- Jet Streams

Unit Four: Weather Forecasting

- How to Read a Weather Map
- Weather Forecasting Instruments
- Remote Sensing
- Making a Weather Map
- Making a Forecast

Unit Five: Severe Weather

- Thunderstorms
- Tornadoes
- Hurricanes
- Monsoons

Unit Six: Impact of Climate Change on Weather Systems

- Difference between Weather and Climate
- Regional Impacts of Climate Change
- ENSO
- Current Events

Standards:

HS-ESS2-2.

Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.

HS-ESS2-4.

Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.

HS-ESS3-5.

Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.

HS-PS3-4.

Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).