First Semester

Ocean Currents
- Temperature, salinity, density
- Types, causes, impacts of currents
- El Nino
- Oceanic conveyor Belt

Atmosphere
- Structure, heating
- Ozone depletion
- Greenhouse effect/global warming issue
- Acid rain

Weather
- Heating of land and water
- Temperature inversions
- Humidity concepts
- Cloud formation
- Atmospheric pressure
- Convection
- Winds: global, regional, local
- Jet streams
- High and low pressure systems

Storms
- Fronts
- Mid-latitude cyclones
- Thunderstorm types and hazards
- Tornadoes
- Weather RADAR
- Hurricanes
- Weather satellites

Climate
- Geographic factors
- Variations
- Paleoclimatology
- Little Ice Age

Introduction to Geology
- Formation and structure of the Earth
- Radiometric Dating
- Geologic time scale

Plate Tectonics
- Theory of continental drift
- Sea Floor spreading, plate tectonics
- Geologic activity at plate boundaries

Second Semester

Volcanism, Minerals, Igneous Rocks
- Types of volcanic activity
- Hazards
- Plutonic and volcanic formations
- Igneous rocks

Weathering, Erosion, Sed. Rocks
- Sedimentary rocks
- Fossil fuels
- Rock cycle

Earth Quakes, Mountain Building
- Basic principles of quakes
- Determining epicenter location
- Hazards
- Mountain building processes
- Interpreting rock layers

Water Systems
- Groundwater basics
- Threats to groundwater, local issues
- Surface water, watersheds, issues
- Water hardness

Glaciers, Ice Ages
- Snowball Earth hypothesis
- Ice ages: when and why
- Ice Age impacts on Montana

Rocket Science, USA Space Program
- Newton's Laws
- Race To the Moon
- NASA 1969-present

Earth, Moon, Sun
- Phases, tides, eclipses
- Solar activity

Solar System
- Formation
- Planets, moons
- Comets, asteroids, dwarf planets

Beyond the Solar System
- Big Bang
- Galaxies
- Stars, black holes