

INTRODUCTORY EARTH SCIENCE SYLLABUS

Instructor: Jon McCabe

Course Description:

This introductory Earth science course provides students with a comprehensive foundation in the major disciplines of Earth science, including geology, meteorology, astronomy, and environmental science. Students investigate Earth's interior structure, the forces that shape its surface, the composition and behavior of the atmosphere, the distribution and movement of water, and Earth's relationship to the Sun, Moon, and solar system.

The course also examines the role of human activity in shaping Earth's systems and explores pathways toward more sustainable interactions with our planet. All units are aligned with the Next Generation Science Standards and emphasize inquiry-based investigation, data analysis, model building, and scientific communication.

Course Overview:

- Unit One: Introduction to Earth Science and the Nature of Science
- Unit Two: Earth's Structure and Interior
- Unit Three: Plate Tectonics
- Unit Four: Rocks, Minerals, and the Rock Cycle
- Unit Five: Weathering, Erosion, and Soil
- Unit Six: Geologic Time and Earth's History
- Unit Seven: Earthquakes and Volcanoes
- Unit Eight: The Atmosphere and Weather
- Unit Nine: Climate and Climate Change
- Unit Ten: Water on Earth — Surface and Groundwater
- Unit Eleven: Earth's Resources and Human Impact

- Unit Twelve: Mapping Earth — Topography and GIS
- Unit Thirteen: Astronomy, the Sun, and Solar Energy
- Unit Fourteen: Human Impact on Earth Systems
- Unit Fifteen: Capstone Project and Course Synthesis

Student Notebook Requirement:

Students are required to maintain a science notebook throughout the entire fifteen-week course. The notebook is a central learning tool used in every class session. Notebook entries should include observations and data from activities, sketches and labeled diagrams, written reflections, responses to quick checks for understanding, and notes taken during direct instruction. Notebooks will be reviewed periodically, and a final reflection entry will be completed in the last class session.

Grading Scale:

A: 90 – 100
B: 80 – 89
C: 70 – 79
D: 60 – 69
F: 0 – 59

Grade Breakdown:

Activities and Investigations: 40%
Notebook Entries and Reflections: 25%
Quick Checks for Understanding: 20%
Capstone Project and Presentation: 15%