

EARTH AND ENVIRONMENTAL SCIENCE

Friday, September 16-December 16 (no class Oct 14 and Nov 25; 12 weeks)

9:30am-11:00am

Ages 14+

In this fall semester course, we explore and reinforce our knowledge of the biological and physical principles related to the environment in which organisms live on Earth. Students learn through hands-on experiments as they strengthen their observational and data recording skills with topics ranging from the Earth's core to its outermost atmospheric layers reaching into space. In the spring semester, we will continue this topic as we continue to discuss the Earth's composition, structure, and processes. All lab costs are included in the registration fee.

Instructor: Ashley Blocker, BSc

Location: STEM LAB (Suite 21) - Roswell

Course fee: \$275 or \$25/lab

10% sibling discount

Register for full semester or individual labs

LAB SCHEDULE:

HABITABLE EARTH - Friday, September 16

We explore Earth's structure and position in relation to the known universe, and how these conditions create a habitable environment on our planet.

EARTH'S PROCESSES - Friday, September 23

Students study the ever-changing processes of the Earth, such as the movement of plates, earthquakes, weather, and climate, and how they affect ecosystems and organisms.

SCIENCE OF WATER - Friday, September 30

Students review the importance of water to the environment, model how it cycles throughout the planet, and investigate impacts on natural flow and availability of water.

SOILS AND MINERALS - Friday, Friday, October 7

We study the role of soils and minerals in the health of our ecosystems as we conduct soil titrations to analyze soil acidity, matter content, and other characteristics.

INDIVIDUALS AND POPULATIONS - Friday, October 21

We investigate our classification of life from organism to ecosystem, and study how individuals interact with their environment and how populations change over time.

COMMUNITIES AND ECOSYSTEMS - Friday, October 28

This week, we study the structure and organization of communities and ecosystems and influences that change them over time.

POPULATION GROWTH - Friday, November 4

Students investigate population growth models and the interdependence of environmental and ecological conditions on population sizes.

BIODIVERSITY – Friday, November 11

Students study biological diversity as we calculate diversity indices and species richness within a community and learn how biodiversity is important in a healthy ecosystem.

CONSERVATION BIOLOGY - Friday, November 18

In this class, students learn about the science of conserving at-risk species and ecosystems and the strategies used to increase population numbers and biodiversity.

FORESTRY AND AGRICULTURE - Friday, December 2

Students learn about forest farming and alternative agriculture methods, including hydroponics, that produce crops in a sustainable way.

RENEWABLE AND NON-RENEWABLE ENERGY - Friday, December 9

Students explore the concepts of renewable and non-renewable resources as they experiment with alternative fuel sources.



POLLUTION - Friday, December 16

We study point and nonpoint sources of water, soil, and air pollution, and develop scientific strategies to minimize impacts and clean polluted environments.

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