

ENVIRONMENTAL SCIENCE SYLLABUS AIM ACADEMY

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I. Course Description:

Environmental Science is a year-long inquiry and hands-on, laboratory-based science course designed to show thematic connections between a variety of science disciplines, including biology, chemistry, geology, botany, ecology, math, toxicology, climatology, astronomy, meteorology, and physics. It gives students a coherent and realistic picture of the applications of a variety of scientific concepts as they manifest in our environment. The aim of this course is to increase students' knowledge of the environmental challenges of today while continuing to cultivate scientific critical thinking skills and encourage problem-solving.

II. Course Textbook:

Environmental Science 2021 Student Edition Grade 9/12, Your World, Your Turn **SBN-10** : 1418336351
ISBN-13 : 978-1418336356, Published August 2020

III. Materials Required:

1. Scientific Calculator (does NOT need to be a graphing calculator)
2. A 100-sheet graph paper notebook
3. Pen/pencils
4. Colored Pencils/Markers
5. Tape - double-sided as well as clear tape
6. Scissors
7. Index Cards
8. Post-it Notes

Lab Materials: [Lab Materials Complete List](#) and [List by Week and Unit](#)

Technology Requirements:

1. High-speed, broadband Internet
2. Sound card and microphone (for live sessions)
3. Streaming video capabilities to watch video lectures and other videos as assigned
4. Computer Access
5. Microsoft Word, Excel, and PowerPoint or Google Docs, Sheets, and Slides Access
6. Printer
7. Scanner/Ability to scan with phone or tablet

IV. Course Content Skills and Standards

A. Science Skills

Students will:

- Use science process skills in laboratory or field investigations, including observation, classification, communication, metric measurement, prediction, inference, and collecting and analyzing data •
- Use traditional reference materials to explore background and historical information regarding a scientific concept
- Learn and use regularly standard safety practices for laboratory or field investigations
- Identify the significance of accurate, precise, and subjective/objective measurements, the use of reliable

tools, safety measures, and career training in environmental monitoring

B. Course Content Standards

STUDENTS WILL...

SEV1: Investigate the flow of energy and cycling of matter within an ecosystem and relate these phenomena to human society.

SEV2: Demonstrate an understanding that the Earth is one interconnected system. SEV3: Describe stability and change in ecosystems.

SEV4: Understand and describe the availability, allocation, and conservation of energy and other resources.

SEV5: Recognize that human beings are part of the global ecosystem and will evaluate the effects of human activities and technology on ecosystems

C. Course Content Units (Yearly Plan)

- Unit 1 - Introduction to Environmental Science
- Unit 2 - The Lithosphere
- Unit 3 - The Atmosphere
- Unit 4 - The Hydrosphere
- Unit 5 - The Biosphere

V. Classroom Format, Requirements, Expectations, and Evaluation:

This course will cover five (5) thematic units covering the four (4) spheres of the planet: The Lithosphere, The Atmosphere, The Biosphere, and The Hydrosphere. Each sphere of the Earth will be explored and investigated, including humans' impact on each, using a variety of instructional methods, including a flipped classroom where students will use the textbook, digital notebooks, videos, video lectures, and web links to learn about the topics. Live classes will be for demos, labs, mini-labs, and discussion sessions. Outside of class, work will consist of case studies, video questions (using EdPuzzle), notes from video lectures, online labs, and readings from the textbook. Students should expect to do 5-7 hours of assignments per week. Most assignments will be due weekly, with some having longer due dates. Quizzes will be weekly, and tests will be given at the end of each unit. Students will complete most assessments on Canvas.

Students are expected to participate in and complete all aspects of required work to the best of their ability. Student achievement will be evaluated in a holistic manner, considering all aspects of performance.

VI. Grading System:

All grades will be available in Canvas for students and parents. Assignments will be graded within one week of the due date. Students will be evaluated through performance on quizzes & tests, mini-laboratory investigations, formal lab reports, homework, and independent projects. A progress report will be given at the end of the semester. Parent conferences are available upon request.

Grades will be weighted as follows:

Mastery Checks (Quizzes) 15%
Assessments (Unit Tests) 25%
Labs & Research 25% Classwork &
Homework 15% Professionalism
10%
Projects 10%

VII. Student Success:

I am very interested in the success of every student; therefore, the following tips will be

useful to the student's success in Environmental Science.

What to do to Be Successful:

1. ASK QUESTIONS! Be curious and connected. Never be afraid of asking a question in or outside of class. If you are having trouble with a particular assignment or concept, do not hesitate to seek help from me. I am available for extra help during office hours, and by appointment.
2. Keep up with the material and reading.
3. Do your homework. This is where the student gets to practice the concepts. Some assignments will be graded for correctness, and others just for completion. Homework assignments allow you to practice and will let me give you feedback and see how well you understand the material. I use "video lectures" to present the lesson, which should be watched before class. We will use the live class to work on labs, mini-labs, and group inquiry work. Since we only meet once a week, it will be essential to do the homework. It is suggested that you break up the assignment into manageable sizes per day.
4. Use your resources: Textbook, Canvas Course website, and other websites given by the instructor.
 - Canvas
 - EdPuzzle
 - Kahoot!
 - ClassKick
 - Pear Deck
 - Lucid
 - Data Nuggets
 - Wayground
5. Canvas Course: Here you will find **EVERYTHING** - all homework assignments, review information, videos, labs, case studies, class discussions, and grades.
6. Come to class prepared: If you are not here, you will miss important discussions, activities, and labs. There will usually be a Quick Check/Do Now given at the beginning of each live class to check for understanding of the material.

Communication: Parents and Students may contact me through Canvas. I will respond within 48 hours to all communications. Please do not hesitate to contact me or ask questions.

ACADEMIC INTEGRITY:

Do your own work. Plagiarism will not be tolerated. While it is expected that students will discuss homework and classwork assignments, students should never submit another person's work or ideas as their own. The use of AI is not permitted to do a student's work unless assigned by the instructor. Quizzes, tests, and exams are always individual assignments and are never collaborative. Group work will be encouraged, and it is expected that all members of the group work equally and respectfully together on any group assignments.

