

2007 -2008 ENVIRONMENTAL SCIENCE
COURSE OUTLINE
Textbook: Science and Sustainability (Lab-Aids, Inc.)
Mrs. N. Akal

Welcome to Environmental Science! In this course you will have the opportunity to learn quite a bit about you and your surroundings. We will explore the many facets of the environment and how we humans interact with the world around us. We will discuss the concept of sustainability and what we can do to help ensure the environment and its resources are sustainable for our children and generations to come. Many of the topics that we will discuss come from the sciences of biology, chemistry, earth science and physics. Once this foundation is laid, the concepts will be applied to the current status of human population and the impact we are having on our environment. You will have a chance to learn about many global issues and how they apply to us here in Trinidad and Tobago.

In this class, we will engage in many interactive activities. They will include hands-on explorations and investigations, reading, role-plays, debates and presentations. This can be a very exciting and enlightening class, if you put in some hard work, come to class prepared and are willing to learn. I look forward to working with you in the coming year!

Materials required DAILY for class:

Textbook
Notebook
Writing utensils

Grading percentages: Your grades will be calculated using the following:

Class participation	10%
Homework	15%
Quiz	15%
Project	15%
Lab	10%
Test	35%

Homework:

You will have regular homework assignments. These may include: questions from the book, an article to read, lab work to finish, or preparing for a quiz or test. These assignments should be completed at home and should be ready to hand in at the beginning of class. Late assignments are not acceptable in my class.

Tests and Quizzes:

Quizzes will be given at different times throughout the semester. They will cover particular topics or chapters. Tests are a little more involved, and require more preparation. Tests will cover more material, such as lab work and articles discussed, as well as textbook information.

Projects:

There will be at least one project per quarter. These projects will involve a considerable amount of preparation time, some in class and some outside of class.

Lab Work:

This class will undertake a variety of laboratory exercises throughout the semester. Labs will require you to complete a short exercise and answer several analysis questions.

Additional Information:

- 1) Major quizzes and tests will be announced
- 2) Pop quizzes will be infrequent and will only cover the previous day's material and any homework
- 3) Your environmental science notebook is a critical tool in this class. It is important to keep it organized and neat.
- 4) Absences from class: if you miss class it is up to you to get notes. You must see me to get any handouts. You are responsible for making up missed work.

Class Expectations:

- 1) Students and teacher will be ON TIME and ready to work at the beginning of class
- 2) Students will have all required material with them for class
Teacher will have material ready for class
- 3) Teacher will return quizzes, tests and lab reports to students within two weeks after they were taken
- 4) Students will be in dress code for every class
- 5) Students and teacher will treat each other with respect and courtesy. Students will listen when someone else is speaking
- 6) ASK QUESTIONS if you are confused about something.

ENVIRONMENTAL SCIENCE: COURSE OUTLINE

This year will focus on how humans impact the environment. Some of the impact is positive and some is negative. A large part of the year will be devoted to human efforts to combat negative impact we are having and ways to help humans create a more balanced and sustainable way of life.

I. ECOSYSTEMS

- Structure: food chains vs. food webs
- Function: trophic levels, energy pyramid
- Altering the balance: top down vs. bottom up dynamics
- Chemical cycles : water and carbon
- Biomes: collection of ecosystems defined by similar rain, temperature and organism patterns

2. HUMAN POPULATION GROWTH

- Population dynamic: carrying capacity and resource limitations
- Human population dynamics
- Impacts of human population growth
- Survival requirements and limitations
- Sustainability

3. RESOURCE DEPLETION

- Exploitation of food reserves and alternatives
- Exploitation of water reserves and alternatives
- Exploitation of fuel reserves and alternatives

4. WASTE PRODUCTS

- Liquid waste: runoff from industry and agriculture
- Hazardous waste : radiation and chemical
- Solid waste: land fills and recycling
- Pollution and its effects

5. CLIMATE EFFECTS OF HUMAN GROWTH AND DEVELOPMENT