Advanced Placement Environmental Science

Mr. J. Anderson - Room 412 - andersjj@mail.milwaukee.k12.wi.us

The goal of environmental science is to provide students with the scientific principles, concepts, and methodologies required:

1. **to understand the interrelationships of the natural world,**
2. **to identify and analyze environmental problems both natural and human made,**
3. **to evaluate the relative risks associated with these problems,**
4. **to examine alternative solutions for resolving and/or preventing the risks / problems.**

Environmental science is interdisciplinary; it embraces a wide variety of topics from different areas of study. Yet there are several major unifying constructs, or themes that cut across the many topics included in the study of environmental science.

- **Science is a process**
  - Science is a method of learning more about the world
  - Science constantly changes the way we understand the world.
- **Energy conversions underlie all ecological processes.**
  - Energy cannot be created; it must come from somewhere.
  - As energy flows through systems, at each step more of it becomes unusable
- **The Earth itself is one interconnected system.**
  - Natural systems change over time and space.
  - Biogeochemical systems vary in ability to recover from disturbances.
- **Humans alter natural systems**
  - Humans have had an impact on the environment for millions of years
  - Technology and population growth have enabled humans to increase both the rate and scale of their impact on the environment.
- **Environmental problems have a cultural and social context.**
  - Understanding the role of cultural, social, and economic factors is vital to the development of solutions.
- **Human survival depends on developing practices that will achieve sustainable systems**.

Mr. Anderson Course Requirements:

- prior successful completion of high school biology and/or high school chemistry
- perfect attendance or limited legitimate absence not to exceed 3 days missing or 90% attendance
- willingness to ask questions and complete all assigned course work.
- students will be required **to attend 7:30 am sessions held at the UEC or in Riverside Park** and / or **1 Saturday session** at the UEC each marking period – credit is given for this work with no make up assignments allowed. Opportunities are at the instructor's discretion.
- daily access to the Internet.
- extended assignments result in homework being required every night and due on the date specified in a complete form if the student is to receive complete credit.
- **Students expecting A's in the course will be expected to be involved in extended learning activities / opportunities proposed by the instructor**.

No late assignments accepted nor incomplete assignments graded.

Grading criteria (based upon homework, tests, questions, final exams, projects, lab work, etc...)
93% to 100% A - 85% to 93% B - 78% to 85% C - 70% to 78% D (below average)
below 70% is unacceptable earning a U. A student in this category should consider dropping this course after discussion with Mr. Anderson, Ms. Crisostomo, and Ms. Peterson.

Textbook: **Environment** 5th edition Raven & Berg. Additional readings as necessary.

Cheating and Plagiarism will not be tolerated and are grounds for FAILURE in the course. When in doubt about what is acceptable, ask the instructor.

Advanced Placement Environmental Science - Mr. J. Anderson 2007 – 2008

SEPTEMBER
Humans in the Environment
MSOE SMART Team
Chapter 1: Introducing Environmental Science and Sustainability
Chapter 2: Environmental Laws, Economics, and Ethics
THE WORLD WE LIVE IN
RESOURCE – REVIEW OF BASIC CHEMISTRY -
http://higheredbcs.wiley.com/legacy/college/raven/0471704385/study_ctr/chemreview.html
Chapter 3: Ecosystems and Energy

OCTOBER
Chapter 4: Ecosystems and Living Organisms
Chapter 5: Ecosystems and the Physical Environment
Chapter 6: Major Ecosystems of the World

NOVEMBER
Chapter 7: Human Health and Environmental Toxicology
A CROWDED WORLD
Governor's Conference on the Environment
Chapter 8: Population Change
Chapter 9: The Problems of Overpopulation

DECEMBER
Chapter 10: The Urban World
THE SEARCH FOR ENERGY
Chapter 11: Fossil Fuels
Chapter 12: Nuclear Energy

JANUARY
Chapter 13: Renewable Energy and Conservation
OUR PRESCIOUS RESOURCES
Chapter 14: Water: A Limited Resource
Chapter 15: Soils and Their Preservation

FEBRUARY
Chapter 16: Minerals: A Nonrenewable Resource
Chapter 17: Preserving Earth's Biological Diversity
Chapter 18: Land Resources

MARCH
Chapter 19: Food Resources: A Challenge for Agriculture
ENVIRONMENTAL CONCERNS
Chapter 20: Air Pollution
Chapter 21: Regional and Global Atmospheric Changes

APRIL
Chapter 22: Water Pollution
Chapter 23: The Pesticide Dilemma
Chapter 24: Solid and Hazardous Wastes
TOMORROW'S WORLD
Chapter 25: Tomorrow's World

MAY & June
Advanced Placement Testing; then Student Projects: 3d mapping, environmental plays, advanced research.

AP ENVIRONMENTAL SCIENCE
MR. J. ANDERSON ROOM 412

TEXTBOOK RESOURCES:

Environment, 5th Edition
Peter H. Raven, Missouri Botanical Garden
Linda R. Berg, St. Petersburg Junior College
ISBN: 978-0-471-70438-6

672 pages

STUDENT COMPANION WEBSITE RESOURCE

TABLE OF CONTENTS
http://bcs.wiley.com/he-bcs/Books?action=contents&itemId=0471704385&bcsId=2781

Browse by Chapter

Select a Chapter

Browse by Resource

- Quizzes
- Study Center
- Take a Stand
- Useful Web Sites
- Learning Objectives
- World View and Closer to You
- EarthNews Radio
- Biology Newsfinder
- Activity Links
- Essay Questions
- How to Make a Difference
- Animations
- Flash Cards
- Recommended Literature
- Periodic Table
- Quantitative Quizzes

The resources listed above are available for each chapter that we will study.

Mr. J. Anderson
August 2007