Orange County Community College
37140 Physical Science: The Environment
Fall 2006

This course will involve a study of the interaction between the physical environment and man. Concepts in natural sciences are introduced as a basis for discussion of current environmental issues. Local environmental issues are emphasized. Laboratory work may include field trips.

Instructor: Cynthia MacMahon
Office: Room 309 (Newburgh), HO-3B (Middletown)
Phone: 341-4576
e-mail: cmacmaho@sunyorange.edu
Office hours: See hours posted on door.
I will be around most of the week either in Newburgh or at the Middletown campus . Students can drop by or make appointments to see me either during the posted office hours or outside of these hours. If you are having trouble or just have questions, please stop by and see me.

TEXT: Environmental Science Toward a Sustainable Future, 9th Edition. ISBN: 0-13-144200-7

Author: Richard T. Wright

Support Services: The best source for help with this course is Cynthia MacMahon as he is the one to write all tests and quizzes.

Materials: Scientific calculator, notebook, Willingness to learn.

Relationship to Programs:
Physical Science: The Environment, 37140, is a terminal college level scientific laboratory course.

Course Objectives:
The student who successfully completes this course will:

- Understand both the metric and SI unit system of measurements.
- Calculate the density and specific gravity of a substance.
- Understand the environment and the impact that changes in technology and human populations have upon it.
- Develop an understanding of the periodic table.
- Balance simple equations that are useful in the study of environmental topics.
- Perform experiments, graph and draw conclusions based on the experimental data.
- Comprehend heat transfer.
- Gain knowledge of fuel sources and their impact that make up our world.
- Understand the importance of nuclear chemistry in terms of energy, and medical technology.
- Develop problem solving and thinking skills that will help in the rest of your college life and life in general.

Attendance/Withdrawal Policy:
Attendance is mandatory. Without proper attendance a student will not do well in this course. . **Since this course is an experimental science course, anyone who misses three or more labs in the semester will automatically receive an F for the course**. **If you are late to lab, it counts as 1/3 of a missed lab. Labs cannot be made up.** To be successful in science one must pay attention in lecture and conscientiously do the homework. It is the student's responsibility to ensure she/he is doing well in the course. Note, Friday November 3rd is the last day for a student to withdraw from semester-long courses with a grade of **W**. If you are in need of special accommodations owing to a disability, please see the instructor.

Date	Topic	Chapter/section	Lab
8/29/06 Week # 1	Introduction, Science, Measurements, Math	Worksheet	Math Review
9/5 Week # 2	The Metric, SI, and English systems of measurement. Accuracy and Significant Figures	Worksheet	Measurements and Conversions,
9/12 Week # 3	Changes of State, the nature of matter, Density	Worksheet	Density
9/19 Week # 4	Energy, Heat, Specific Heat	Worksheet	Specific Heat
9/26 Week # 5	Ecosystems 1: Ecosystems a Description	2.1	**Test 1**
10/3 Week # 6	Ecosystems 2:The Structure of Ecosystems (Trophic systems, Food Chains)	2.2	Food Web
10/10 Week # 7	**No Tuesday Class** Nonfeeding Relationships and Ecosystems to Global Biomes	2.3	Graphing Lab I
10/17 Week # 8	Periodic Table	Worksheet	**Test 2**
10/24 Week # 9	Combustion reactions; Balancing combustion reactions	Worksheet	Periodic Table Lab
10/31 Week # 10	Energy sources and uses, Exploiting Crude Oil	12.1and 12.2	Graphing II
11/7 Week # 11	Other Fossil Fuels and Energy Security	12.3 and 12.4	Physical and Chemical Change
11/14 Week # 12	Nuclear reactions	13.1 and 13.2	Half-life Lab
11/20 Week # 13	Half life **Thanksgiving Break 11/23-11/26**	13.3 and 13.4	Graphing Lab III
11/28 Week # 14	Energy: Nonrenewable and Renewable Solar Energy	14.1	**Test 3**
12/5 Week #15	Indirect Solar Energy	14.2	Crossword Definition Lab
12/11-5/114 **Final Exams**	**Final Exams**	**Final Exams**	**Final Exams**

Grading:

3 Tests	=	16% Each
Quizzes	=	16% Total
1 Final	=	16% Total
Lab	=	20%
Total	=	100%

Typical grading 100%-90% [A]; 89%-80% [B]; 79%-70% [C]; 69%-60% [D]; < 60% [F]

Quizzes will be based almost exclusively on homework. Quizzes cannot be taken late, but they may be taken early. The lowest quiz grade will be dropped before the average is calculated at the end of the semester. Labs cannot be made up. Any missed labs will receive a grade of zero. Tests will also be based on the homework with the possibility of some multiple-choice questions.

There are many homework handouts that will be given out throughout the semester. In addition to these handouts, there are also problems in each chapter of the book.

****