

Living Environment Regents  
**Living Environment R 4200**

Full year - 1 credit

Grades 9,10,11,12

Prerequisite: Successful Completion of Earth Science

### **Overview**

This class will cover the NYS Living Environment syllabus. The curriculum has been written to prepare instruction and assessment which reflect the Living Environment component of Standard 4 of the New York State Learning Standards for Mathematics, Science, and Technology. This standard states: "Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science." Areas of concentration include: Scientific inquiry, graphing and analysis, laboratory skills and equipment, biochemistry, cells, genetics, evolution, ecology, human anatomy and physiology. The class meets once a day with an extra lab period every other day. Students will be prepared for the NYS Regents exam which will be taken in June at the conclusion of the school year.

**Living Environment CT - 4205**  
year - 1 credit

Full

Grades 9,10,11,12

Prerequisite: Faculty Recommendation

### **Overview**

This co-taught Living Environment course will provide students with two teachers in the classroom. A science teacher and a special education teacher will work together to cover the material in the NYS Living Environment syllabus. Due to the multimodal nature of science instruction, students with disabilities will benefit from the extra support and modification of the curriculum which will include both traditional instruction and hands on laboratory practices. Areas of concentration include: Scientific inquiry, graphing and analysis, laboratory skills and equipment, biochemistry, cells, genetics, evolution, ecology, human anatomy and physiology. The class meets once a day with an extra lab period every other day. Students will be prepared for the NYS Regents exam which will be taken in June at the conclusion of the school year.

## **Instructional philosophy**

Living Environment Regents course is built on the knowledge, understanding, and ability to do science that students have acquired in their earlier grades. Instruction is focused on understanding important relationships, processes, mechanisms, and applications of concepts with less emphasis on the memorization of specialized terminology and technical details. The assessments test students' ability to explain, analyze, and interpret biological processes and phenomena more than their ability to recall specific facts. The course is expected to prepare students to explain the most important ideas about our living environment. It is accomplished through lectures, large and small group discussions, text readings and lab activities. Laboratory experiences provide the opportunity for students to develop the scientific inquiry techniques, the use of information systems, the interconnectedness of content and skills and the problem-solving approaches (The Living Environment. Core Curriculum. <http://www.nysed.gov>)

## **Knowledge and Skills Objectives**

Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

## **Living Environment R&CT- Units of Study**

### **1. *Scientific Inquiry and Laboratory Skills***

Microscopes

Lab Safety

Scientific method

Interpreting Graphs

### **2. *Organization of Life***

The characteristics of life

Biochemistry

Cell structure

Cells and their environment

Single and Multi-cellular organisms

**3. *Reproduction and Development***

Types of reproduction

Cell Division

Technology of Reproduction

**4. *Genetics***

Heredity

The structure of DNA/RNA

How a gene becomes a protein

Genetic Engineering

**5. *Evolution***

The Theory of Evolution

Mechanisms of Evolution

Patterns of Evolution

**6. *Ecology***

Biodiversity

Organisms in their environment

Structure of ecosystems

Energy flow in ecosystems

**7. *Human Impact on the Environment***

Positive effects of humans on the environment

Negative effects of human on the environment

**8. Homeostasis**

Feedback

Human Body Systems

Disease

Human Reproduction

**9. NYS Required Labs**

Diffusion/Osmosis

Biodiversity

Making Connections

Beaks of Finches

**Major Resources for Living Environment R/CT**

*Primary Text:*

*Title: "Biology: Principles and Explorations"*

*Authors: Johnson and Raven*

*Publisher: Holt, Rinehart and Winston*

*Review Book:*

*Title: "The Living Environment"*

*Authors: John Bartsch, Mary P. Colvard*

*Publisher: Pearson Prentice Hall*

*On-Line Text:*

<http://www.phschool.com/science/>

*On-Line Practice and Review:*