EDUC 597 Secondary Science for Special Education, Section 6B1, Fall 2005

Classes held at Washington - Lee High School, Arlington, VA
Classes meet on Thursdays, October 6 through December 15, 4:00-8:00 p.m.

INSTRUCTORS

Leslie Ann Pierce  
T. A. Edison HS  
Fairfax County Public Schools  
Phone: 703-924-8280  
Email: leslieann.pierce@fcps.edu

Jay Calfee  
T. A. Edison HS  
Fairfax County Public Schools  
Phone: 703 924 8073  
Email: jay.calfee@fcps.edu

Margo Pierce  
Washington - Lee HS  
Arlington Public Schools  
Phone: 703 228 2661  
Email: margo_pierce@apsva.us

COURSE DESCRIPTION AND GOALS

EDUC 597 is a science content course for middle and high school special education teachers. The course focuses on building understanding of key concepts, facts, theories and ideas of physical, life, and earth and space sciences. There is an emphasis on content that cuts across the science disciplines, such as energy sources and transformations and biogeochemical cycles. The curriculum consists of a series of classroom and laboratory activities and assessments that are designed to foster the development of increased proficiency in the practice of science as defined by the following goals:

- **Identify science principles** by to recalling, defining, relating and representing (words, models, graphs, tables, formulas and diagrams) appropriate science principles specified in the content outline that follows.
- **Use science principles** to explain and predict natural phenomena, propose, analyze and evaluate alternative explanations or predictions and suggest examples of observations that illustrate a science principle
- **Conduct scientific inquiry** by designing and evaluating aspects of scientific investigations, using measurements, notation, tools and techniques that are appropriate to secondary school science courses, employing tools of mathematics to identify patterns and trends in data, and identifying and discussing sources of error in data.
- **Demonstrate procedural knowledge** of common laboratory practices used in secondary schools, as well as of safety and emergency procedures for secondary classrooms and laboratories.
REQUIRED ONLINE RESOURCES


MATERIALS REQUIRED

- Three-ring binder or large folder to store reading materials and course work
- Composition book for laboratory data
- Scientific calculator

SCIENCE CONTENT TOPIC OUTLINE

**Physical Science Topics**

**Matter**
- Properties of matter
- Changes in matter

**Energy**
- Forms of energy
- Energy conversions and conservation

**Life Science Topics**

**Structures and functions of living systems**
- Cellular and molecular organization and regulation
- Matter and energy transformations

**Changes in living systems**
- Molecular basis of heredity
- Evolution

**Earth and Space Science Topics**

**History of Earth**
- Geological time
- Stratigraphy, fossils and the fossil record

**Earth structures**
- Composition of the atmosphere
- Tectonics

**Earth systems**
- Energy transformations in earth systems
- Biogeochemical cycles
ASSESSMENT

The course grade will be based on a percentage determined from the ratio of your total score from 6 quizzes (10 points each) and three cumulative examinations (100 points each) to the maximum of 360 points possible. The assessment schedule is shown below. The assessments will include written free-response and multiple choice tests, hands-on performance tasks, cooperative team or group tasks and interactive computer tasks.

Quizzes
Thursday 13 October
Thursday 20 October
Thursday 3 November
Thursday 10 November
Thursday 1 December
Thursday 8 December

Examinations
Thursday 27 October
Thursday 17 November
Thursday 15 December