Non-Credit

Glendale Community College
May, 1988
Revised: September, 2005

COURSE OUTLINE

Developmental Skills Lab 030
Life Science IA

I. Catalog Statement

Developmental Skills Lab 030 is a high school level course designed to give an overview of life science from cells through the plant kingdom. It includes the characteristics of life, cells structure and function, heredity, evolution, and the classification of plants. This is the first half of a one-year course.

Units — 0.0
Total Laboratory Hours — 100.0

Recommended preparation: ESL 040 or equivalent

Note: This is a self-paced course in an open-entry, open-exit lab environment. Successful completion of this course results in 5 high school credits (1/2 unit).

II. Course Entry Expectations

Skills Level Ranges: Reading: 5; Writing: 5; Speaking/Listening: 4; Math: 2.

III. Course Exit Standards

Upon successful completion of the required coursework, the student will be able to:
1. identify the structure and function of cells and cell parts;
2. describe the life cycle of cells;
3. explain how traits are inherited;
4. describe the theories of evolution and the evidence supporting them;
5. identify the impact bacteria have on the environment and on human beings;
6. compare and contrast the categories of protists and fungi;
7. compare and contrast seed and seedless plants.

IV. Course Content

A. Overview of Living Things — 6 hours
   1. Distinguish between living and nonliving things
   2. Needs of living things
   3. Spontaneous generation and biogenesis
   4. Classification of living things

B. Cells — 8 hours
   1. Structure and function of organelles
   2. Cell theory
   3. Viruses

C. Cell Processes — 8 hours
   1. Organic verses inorganic compounds
   2. Osmosis and passive/active transport
   3. Photosynthesis, respiration, and fermentation

D. Cell Reproduction — 8 hours
   1. Cell division and mitosis
   2. Sexual reproduction and meiosis
   3. DNA

E. Heredity — 7 hours
   1. History of the study of genetics
   2. Genetics since Mendel
   3. Advances in genetics

F. Theory of Evolution — 7 hours
   1. Concepts involved in evolutionary theory
   2. Evidence of evolution
   3. Evolution of primates

G. Bacteria — 10 hours
   1. Characteristics of bacteria
   2. Impact of bacteria on humans and the environment

H. Protists and Fungi — 10 hours
   1. Characteristics and categories of protists
   2. Characteristics and categories of fungi

I. Plants — 12 hours
   1. Plant characteristics
   2. Vascular and nonvascular plants
   3. Seedless plants
   4. Seed plants
      a) structure and function of roots, stems, and leaves
      b) gymnosperms and angiosperms
      c) monocots and dicots

J. Plant Reproduction — 12 hours
   1. Stages in plant life cycle
   2. Seedless reproduction
   3. Seed reproduction

K. Plant Processes — 12 hours
   1. Photosynthesis and respiration
   2. Tropism
   3. Plant hormones

V. Methods of Presentation

The following instructional methodologies may be used in the course:

1. Independent study using worksheets and texts.
2. Computer-aided instruction.
3. Small group instruction.
4. Video instruction.

VI. Assignments and Methods of Evaluation

Students complete written chapter assignments.
Chapter tests.

VII. Textbook(s)

Biggs, A. et al. Life Science.
New York: Glencoe McGraw Hill, 2005.
10th Grade Reading Level. ISBN: 0-07-861702-2

VIII. Student Learning Outcome

- identify the structure and function of cells and cell parts;
- describe the life cycle of cells;
- explain how traits are inherited;
- explain how a new species of organism could evolve;