

COURSE OUTLINE

**Developmental Skills Lab 031
Life Science IB**

I. Catalog Statement

Developmental Skills Lab 031 is a high school level course designed to give an overview of life science from animals to the human body. It includes animal classification and characteristics, human body systems, and the interactions of factors within an ecosystem. This is the second half of a one-year course.

Units — 0.0

Total Laboratory Hours — 100.0

Recommended preparation: ESL 040 or equivalent
DSL 030 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 Range Levels: 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 characteristics common to most classes of animals;
2. identify the adaptations most animal classes have made for survival;
3. compare and contrast innate and learned behavior;
4. describe the structure and function of each of the systems of the human body;
5. analyze a food web and describe the impact on the environment given any changes;
6. describe a community within an ecosystem and predict its possible evolution.

IV. Course Content

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| A. | Introduction to Animals | 6 hours |
| | 1. Characteristics common to most animals | |
| | 2. Sponges and cnidarians | |
| | 3. Flatworms and roundworm | |

B.	Mollusks, Worms, Arthropods, and Echinoderms	7 hours
1.	Characteristics of mollusks	
a)	gastropods	
b)	bivalves	
c)	cephalopods	
2.	Characteristics of segmented worms	
3.	Characteristics, structure, and metamorphosis of arthropods	
4.	Characteristics and environmental importance of echinoderms	
C.	Fish, Amphibians, and Reptiles	7 hours
1.	General characteristics of chordates	
2.	Characteristics of the three classes of fish	
3.	Adaptations and life cycles of amphibians	
4.	Characteristics, reproduction, and adaptation of reptiles	
D.	Birds and Mammals	7 hours
1.	Characteristics and adaptations of birds	
2.	Reproduction and development of birds	
3.	Characteristics and adaptations of mammals	
4.	Reproduction of mammals	
a)	monotremes	
b)	marsupials	
c)	placentals	
E.	Animal Behavior	6 hours
1.	Innate and learned behavior	
2.	Reflexes, instincts, and imprinting	
3.	Behavioral adaptations	
a)	courtship behavior	
b)	social behavior	
c)	cyclic behavior	
F.	Human Body: Structure and Movement	6 hours
1.	Skeletal system function and parts	
2.	Muscular system function and physiology	
3.	Skin construction and function	
G.	Human Body: Nutrients and Digestion	6 hours
1.	Nutrients, diet, and health	
2.	Mechanical and chemical digestion	
3.	Organs of the digestive system	
4.	Process of digestion	
H.	Human Body: Circulation	6 hours
1.	Pulmonary and systemic circulatory system parts and processes	
2.	Parts and functions of the blood	
3.	Structure and function of the lymphatic system	
I.	Human Body: Respiration and Excretion	6 hours
1.	Structure and function of the respiratory system	
2.	Structure and function of the excretory systems	
3.	Structure and function of the urinary system	

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| J. | Human Body: Control and Coordination | 6 hours |
| | 1. Structure and function of the nervous system | |
| | a) Neurons and nerve impulses | |
| | b) Central and peripheral nervous systems | |
| | 2. Sense organs, sensory receptors, and stimuli | |
| K. | Human Body: Regulation and Reproduction | 6 hours |
| | 1. Glands, hormones, and the function of the endocrine system | |
| | 2. Reproductive system | |
| | a) male | |
| | b) female | |
| | c) menstrual cycle | |
| | 3. Human life stages | |
| | a) fertilization of an egg | |
| | b) development of an embryo and fetus | |
| | c) developmental stages of infancy, childhood, adolescence, and adulthood | |
| L. | Human Body: Immunity and Disease | 6 hours |
| | 1. Antigens and antibodies | |
| | 2. Infectious diseases | |
| | a) viruses and bacteria | |
| | b) sexually transmitted diseases | |
| | 3. Noninfectious diseases | |
| M. | Ecology: Interactions of Life | 9 hours |
| | 1. Ecology | |
| | 2. Populations | |
| | 3. Organisms | |
| N. | Ecology: The Nonliving Environment | 8 hours |
| | 1. Abiotic factors | |
| | 2. Cycles in nature | |
| | a) water | |
| | b) carbon | |
| | c) nitrogen | |
| | 3. Energy flow and food chains | |
| O. | Ecology: Ecosystems | 8 hours |
| | 1. Community evolution and climax communities | |
| | 2. Biomes and organisms' adaptations | |
| | 3. Aquatic ecosystems | |

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 characteristics common to most classes of animals;
- identify the adaptations most animal classes have made for survival;
- compare and contrast innate and learned behavior;
- describe the structure and function of each of the systems in the human body;
- analyze a food web and describe the impact of any changes in the environment;

