



Wayne County Community College District

COURSE SYLLABUS

BIO 155 Introductory Biology

CREDIT HOURS: 4.00

CONTACT HOURS: 60.00

COURSE DESCRIPTION:

Lecture and laboratory introductory course for the non-science as well as the pre-professional transfer student. Biological concepts covering the chemical and cellular basis of life will be presented, including such topics as cell structure and function, DNA, bioenergetics, reproduction, metabolic principles, genetics, plant and animal anatomy, ecology and evolution. (Meets six hours per week; four hours lecture and two hours laboratory)

PREREQUISITIES: NONE

EXPECTED OUTCOMES: *Performance Objectives for the Laboratory*

The student must be able to demonstrate a recognition and understanding of:

1. Demonstrate an understanding of laboratory safety.
2. Measure weight, length, volume and temperature using correct instruments and metric units.
3. Demonstrate the proper way to focus and view specimens under the microscope.
4. Identify parts of a cell visible with a light microscope.
5. Define and recognize diffusion and osmosis.
6. Be familiar with the metric system and compound microscope.
7. Identify the stages of plant and animal mitosis.
8. Identify phenotypes and possible genotypes of selected human traits.
9. Identify slides of the four basic mammalian tissue groups.
10. Identify and know functions of mammalian organs using fetal pig dissection or human torso models.
11. Locate and identify under the microscope the structure of monocot and dicot stems, roots and leaves.
12. Be able to describe the major organs/systems of both animals (humans) and plants.

Lecture Objectives: *The student must be able to demonstrate an understanding of:*

1. By the end of the course the student should have a general knowledge of basic biology; including homeostasis and feedback mechanisms, and hormones.
2. The student should have a general knowledge of cell chemistry and energy, including the metabolism of carbohydrates, proteins, lipids, and nuclei acids.
3. Be able to describe cell structure, organelles and their functions.
4. Be able to describe DNA structure and replication and the Cell's Life Cycle.
5. Be able to describe protein synthesis including transcription and translation.
6. Briefly describe the concept of evolution.
7. Describe cell respiration, both aerobic and anaerobic.
8. Describe Ecology, genetics and photosynthesis.

ASSESSMENT METHODS:

Student performance may be assessed by examination, quizzes, case studies, oral conversation, group discussion, oral presentations. The instructor reserves the option to employ one or more of these assessment methods during the course.

GRADING SCALE:

90%-100% = A
80%-89.9% = B
70%-79.9% = C
60%-69.9% = D
<60% = E