



Alabama Community College System

BIO 101 Introduction to Biology I

I. BIO 101 Introduction to Biology I—4 Semester Hours

II. Course Description

This is an introductory course designed for non-science majors. It includes physical, chemical, and biological principles common to all organisms. These principles are explained through a study of the scientific method, biological organization, cellular structure, bioenergetics of a cell, cell reproduction, gene theory, inheritance, and evolution. A 120-minute laboratory per week is required.

III. Prerequisite

As required by program

IV. Textbook

Due to the varied selection of quality college-level textbooks, each college will select the textbook needed to meet the requirements of this course.

V. Course Learning Outcomes

By the end of the course, students will be able to:

1. apply the scientific method in theory and laboratory,
2. explain the basic principles of biochemistry,
3. explain the levels of biological organization,
4. differentiate between prokaryotic and eukaryotic cells including the three domains of life,
5. describe the structure and function of prokaryotic and eukaryotic cells including cellular transport across the membrane,
6. describe the process of cellular division including sexual and asexual reproduction,
7. describe how cells transform energy necessary for life,
8. identify the basic principles of gene theory and inheritance and how they apply to natural selection and evolution, and
9. demonstrate and apply proper use of laboratory techniques and equipment.

VI. Course Outline of Topics

Lecture:

1. Scientific method
2. Characteristics of life and levels of biological organization
3. Chemistry of life
4. Prokaryotic and eukaryotic cells
5. Cellular Transport
6. Bioenergetics
7. DNA structure and replication
8. Protein Synthesis
9. Mitosis and meiosis
10. Genetics
11. Natural selection and evolution

Lab:

1. Introduction to the lab
2. Biological organization
3. Chemistry of life
4. Prokaryotic and eukaryotic cells
5. Cellular transport
6. Bioenergetics
7. Mitosis
8. Meiosis
9. Genetics

VII. Evaluation and Assessment

Grades will be given based upon A = 90 – 100%, B = 80 – 89%, C = 70 – 79%, D = 60 – 69%, and F = below 60%.

VIII. Attendance

Students are expected to attend all classes for which they are registered. Students who are unable to attend class regularly, regardless of the reason or circumstance, should withdraw from that class before poor attendance interferes with the student's ability to achieve the objectives required in the course. Withdrawal from class can affect eligibility for federal financial aid.

IX. Statement on Discrimination/Harassment

It is the official policy of the Alabama Community College System and entities under its control, including all Colleges, that no person shall be discriminated against on the basis of any impermissible criterion or characteristic, including, without limitation, race, color, national origin, religion, marital status, disability, sex, age, or any other protected class as defined by federal and state law. (ACCS Policies 601.02 and 800.00)

X. Americans with Disabilities

The Rehabilitation Act of 1973 (Section 504) and the Americans with Disabilities Act of 1990 state that qualified students with disabilities who meet the essential functions and academic requirements are entitled to reasonable accommodations. It is the student's responsibility to provide appropriate disability documentation to the College.