

COLLEGEWIDE COURSE OUTLINE OF RECORD

BIO 101, INTRODUCTORY BIOLOGY

COURSE TITLE: Introductory Biology

COURSE NUMBER: BIO 101

PREREQUISITES: Demonstrated competency through appropriate assessment or earning a grade of "C" or better in ENG 025 Introduction to College Writing II, ENG 032 Reading Strategies for College II and MAT 050 Basic Algebra

DIVISION: General Education

PROGRAM: General Education

CREDIT HOURS: 3

CONTACT HOURS: Lecture: 2 Lab: 2

DATE OF LAST REVISION: Spring, 2004

EFFECTIVE DATE OF THIS REVISION: Summer, 2005

CATALOG DESCRIPTION: Introduces the basic concepts of life. Includes discussion of cellular and organismal biology, genetics, evolution, ecology, and interaction among all living organisms. Addresses applications of biology to society.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Apply the scientific method to problems encountered in everyday life.
2. Provide examples of the historic development of current scientific thought.
3. Demonstrate basic skills of metric measuring, data collection, data interpretation, and microscope use.
4. Interpret simulations of biological systems and relate them to concrete applications.
5. Describe plant structures and functions including reproductive biology, development, and regulation of systems.
6. Identify the internal and external structures of both the prokaryotic and eukaryotic cells and define the functions of each.
7. Recognize energy pathways such as photosynthesis, respiration, and overall cellular metabolism.
8. Describe the basic processes of mitosis and meiosis and relate them to the life cycle of organisms.
9. Summarize the mechanisms of inheritance and the processes by which protein and DNA are synthesized.
10. Describe the major principles of genetics and biotechnology.
11. Understand the mechanisms of natural selection and their impact on evolution.
12. Identify major ecological concepts such as communities, energy flow and nutrient cycling, and renewable and non-renewable resources.
13. Describe the general properties and characteristics of the biological kingdoms.
14. Describe human structures and functions including reproductive biology, development, behavior, and regulation of organ systems.
15. Apply the scientific method and the knowledge gained from the course to societal concerns.

COURSE CONTENT: Topical areas of study include –

Scientific method	Basic inorganic and organic chemistry principles
Animal biology	Cell cycle and the mechanisms of molecular genetics
Plant biology	Natural selection and evolution
Biotechnology	Cell structure and function
Genetics	General process of energy transformation: enzyme function,
Ecology	photosynthesis, aerobic and anaerobic respiration
Phylogeny	

SUGGESTED LAB CONTENTS:

Microscopy	Metric system
Osmosis	Chemistry
pH/Model building	Cell structure
Genetics	Environmental
Dicotomous Key	Simulation of protein synthesis
Enzyme activity	Comparative anatomy
Plant anatomy	

ACADEMIC HONESTY STATEMENT:

The College is committed to academic integrity in all its practices. The faculty value intellectual integrity and a high standard of academic conduct. Activities that violate academic integrity undermine the quality and diminish the value of educational achievement.

Cheating on papers, tests or other academic works is a violation of College rules. No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior.

ADA STATEMENT:

Ivy Tech State College seeks to provide reasonable accommodations for qualified individuals with documented disabilities. If you need an accommodation because of a documented disability, please contact the Office of Disability Support Services.

If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classroom.