

GEORGIA PERIMETER COLLEGE
DIVISION OF SCIENCE
COMMON COURSE OUTLINE
Revision Date: November 2000

COURSE ABBREVIATION	BIOL 2108L
CREDIT HOURS	1 Semester Hour
COURSE TITLE	Principles of Biology II Laboratory
PREREQUISITES	BIOL 2107 and BIOL 2107L, each with a "C" or better.
COREQUISITE	BIOL 2108

CATALOG DESCRIPTION

This is an in-depth laboratory which involves the study of population genetics, diversity and unifying characteristics of animals, organ system structure and function, and ecology. This course is designed for students whose program of study is science.

EXPECTED EDUCATIONAL RESULTS

As a result of completing this course, the student will be able to:

1. Design and perform scientific experiments as well as analyze and interpret results and present written discussions.
2. Perform experiments on the processes of evolutionary change.
3. Describe phylogenetic relationships among the major animal taxa by comparing various internal and external anatomical features.
4. Describe basic vertebrate anatomy and compare and contrast it with invertebrate systems.
5. Identify the roles of the various organs in maintaining homeostasis.
6. Describe fertilization and early embryogenesis in deuterostomes
7. Describe the interrelation between organisms and their physical and biological environment.

GENERAL EDUCATION OUTCOMES

- I. This course addresses the general education outcome relating to communications as follows:
1. Students increase their reading comprehension skills by reading lab exercises and handout materials. Students are required to write prelab flowcharts based on this reading.
 2. Students increase their listening skills through pre- and postlab discussion as well as by working in small group discussions as they perform experiments.
 3. Students increase their reading and writing skills through writing lab reports and maintaining a lab notebook.

II. This course addresses the general education outcomes of mathematical concept usage and applies the scientific method as follows:

1. Students use measurements in microscopy to determine size of specimens.
2. Students use algebraic equations to solve population genetics problems.
3. Students must graph and analyze data obtained by experimentation.
4. Students apply the scientific method to explore laboratory exercises.

III. This course addresses the general education outcome relating to problem-solving and critical thinking skills as follows:

1. Students work in small groups to solve experimental problems posed by the course content.
2. Students work in small groups on a semester research project, which involves library research, experimentation, writing a lab report and presentation.

COURSE CONTENT

- I. Population Genetics
- II. Classification of organisms
- III. Structure and Function of Organ Systems in Selected Animals
 - A. Simple Animal Phyla
 - B. Protostomes
 - C. Deuterostomes
- IV. Animal Anatomy and Physiology - strategies for maintaining life processes
 - A. Basic mammalian anatomy (circulatory, digestive, respiratory and reproductive systems)
 - B. Comparative anatomy of selected vertebrates
 - C. Homeostasis (excretory systems and nutrient regulation)
 - D. Control systems (nervous system and sense organs)
 - E. Movement and support
 - F. Embryology
- V. Ecology

ASSESSMENT OF EXPECTED EDUCATIONAL RESULTS

A. COURSE GRADE

Midterm and final exams prepared by individual instructors as well as lab reports will be used to determine the course grade. Exams will be part practical and part written in content. Lab notebooks and/or semester research projects will determine part of the lab course grade.

B. DEPARTMENTAL ASSESSMENT

This course will be assessed every three years in the fall/spring as a portion of the Biology Program of Study assessment.

C. USE OF ASSESSMENT FINDINGS

Instructors will consult the assessment results and each other to determine which educational approaches are working well, and which could be improved. They will continue what works and explore improved approaches to instruction where that is needed.

EFFECTIVE DATE: November 2000

APPROVED DATE: November 2000

REVIEW DATE: April 2005