

**Bossier Parish Community College
Master Syllabus**

Course Prefix and Number: BLGY 101L

Credit Hours: 1

Lecture Hours per Week: 0

Lab Hours per Week: 3

Course Title: General Biology I Lab

Course Prerequisites/Corequisite: BLGY 101

Textbooks: Mader, S.; Laboratory Manual: Biology, 14th edition

Course Description: Laboratory designed to supplement General Biology I for science majors. Withdrawal from lecture mandates withdrawal from laboratory. The Louisiana Statewide Common Course Catalog name and number for this course are CBIO 1031: General Biology I Lab (Science Majors).

Learning Outcomes:

At the end of this course students will:

- A. demonstrate competency in the use of basic biological laboratory equipment; and
- B. integrate data collected in the lab to interpret and support basic biological principles.

To achieve the learning outcomes, the student will:

1. practice safety and standard precautions in the laboratory. (A)
2. use metric units of measurement for length, weight, volume, and temperature. (A)
3. identify the parts of compound light and dissection microscopes and give the function of each part. (A)
4. list, in proper order, the steps for bringing an object into focus utilizing a compound light and dissection microscope to study specimens in the laboratory. (A)
5. calculate the total magnification and the diameter of field for both low- and high-power objectives. (A)
6. display and analyze data using appropriate scientific and mathematical tools. (B)
7. apply the scientific method to collect data and solve problems in a laboratory setting. (A, B)
8. outline the steps of the scientific method. (B)
9. explain the relationship between a hypothesis, a theory, and a law. (B)
10. describe tests for the detection of proteins, carbohydrates, and lipids (A,B)
11. distinguish between prokaryotic and eukaryotic cells by description and examples. (A)
12. identify plant and animal cell structures and state the function of each structure. (A)

13. define diffusion and describe how the process is affected by the medium. (B)
14. define osmosis and explain the movement of water across a membrane. (B)
15. state and relate the equations for photosynthesis and aerobic respiration. (A)
16. relate the effect of various colors on the rate of photosynthesis. (A,B)
17. relate the effect of differing temperatures on the rate of respiration. (A,B)
18. identify the steps of the cell cycle in both plant and animal cells. (A)
19. use the frequency of mitotic phases in a root tip slide to determine the time span for each phase of mitosis. (A,B)
20. identify the stages of meiosis. (B)
21. demonstrate the two ways meiosis introduces variation among the daughter cells of meiosis. (B)
22. solve genetics problems using Punnett squares (monohybrid and dihybrid). (B)
23. explain the use of a testcross to determine the genotype of an individual. (B)
24. describe the normal chromosomal makeup of human males and females. (B)
25. identify human diseases caused by chromosomal abnormalities in both autosomal and sex chromosomes. (B)
26. solve problems involving various inheritance patterns. (B)
27. explain the structure of DNA, RNA, and proteins. (B)
28. describe the processes of transcription and translation in the production of proteins. (B)
29. explain the 4 areas of support for the theory of evolution. (B)
30. complete lab report questions for the chemical composition lab that requires the student to think critically. (B)

Course Requirements: To earn a grade of “C” or higher the student must earn 70% of the total points for the course and meet all of the following course requirements.

- minimum average of 50% on lab practical exams

Course Grading Scale:

- A- 90% or more of the total points possible for the semester; and meet all minimum course requirements
- B- 80% or more of the total points possible for the semester; and meet all minimum course requirements
- C- 70% or more of the total points possible for the semester; and meet all minimum course requirements
- D- 60% or more of the total points possible for the semester; and meet all minimum course requirements.
- F- less than 60% of the total points possible for the semester; and/or failure to meet one or more of the minimum course requirements

Attendance Policy: The college attendance policy is available at <http://www.bpcc.edu/catalog/current/academicpolicies.html>

Course Fees: This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, certification exams and/or clinical fees.

Nondiscrimination Statement

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COORDINATOR FOR SECTION 504 AND ADA

Angie Cao, Student and Disability Services Specialist

Disability Services, F254, 6220 East Texas Street, Bossier City, LA 71111

318-678-6511

acao@bpcc.edu

Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.

Equity/Compliance Coordinator

Teri Bashara, Director of Human Resources

Human Resources Office, A-105

6220 East Texas Street

Bossier City, LA 71111

Phone: 318-678-6056

Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.

Reviewed by J. Coston / March 2020