# 1/5/2023

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 2 February 2023

Term and Year of Implementation: Spring 2023

**Course Title:** Biology I Lab for Science Majors

**BRCC Course Rubric:** BIOL 1031

**Previous Course Rubric**: BIOL 120L

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 0-3-1

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 0-45-45

**Louisiana Common Course Number:** CBIO 1031

**CIP Code:** 26.0101

**Course Description:** Provides a laboratory component that supplements BIOL 1033 (BIOL 120) content. Intended for students pursuing careers in science, engineering and many health professions. This course requires a lab fee. Note that credit is not awarded for both BIOL 1031 (BIOL 120L) and BIOL 1011 (BIOL 101L).

**Prerequisites:** None

**Co-requisites:** None

**Suggested Enrollment Cap:** 24

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Demonstrate knowledge of laboratory methods and practices of general biology in the areas of safety, microscopy, cellular metabolism, evolution, genetics, molecular biology, biotechnology, basic biochemistry, and cell structure and function.

2. Use the scientific method to conduct and interpret laboratory experiments and write laboratory reports.

3. Interpret biological images, scientific graphs and models to illustrate general biology concepts.

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Administration of unit exams during the semester and a comprehensive final exam at the end of the semester.

2. Instructor-designed assignments including, but not limited to, written and oral assignments, lab reports, projects, homework, and quizzes. All assignments will be graded using an instructor-designed rubric.

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

I. Introduction to Science Laboratory

A. Laboratory Rules and Lab Safety

B. Scientific Method

C. Metric Measurement

II. Microscopy

A. Compound Light Microscope

B. Binocular Dissecting Microscope

C. Microscopic Observations

III. Chemistry of Life

A. pH, Acids, Bases, Buffers

B. Chemical Composition of Cells

C. Identification of Carbohydrates, Proteins and Lipids

IV. Cell Structure and Function

A. Types of Cells

B. Diffusion and Osmosis

C. Enzyme Activity

D. Photosynthesis

E. Cellular Respiration

V. Cell Reproduction and Inheritance

A. Mitosis and Meiosis

B. Mendelian Genetics

C. Human Genetics

VI. Molecular Biology

A. DNA Structure and Function

B. RNA Structure and Function

C. Biotechnology

VII. Evolution

A. Geological Time Scale and Evolutionary Events

B. Evidence for Evolution