# 8/13/2020

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 11 September 2020

Term and Year of Implementation: Fall 2020

**Course Title:** General Physics I Lab

**BRCC Course Rubric:** PHYS 2111

**Previous Course Rubric**: PHYS 210L

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 0-2-1

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 0-30-30

**Louisiana Common Course Number:** CPHY 2111

**CIP Code:** 40.0801

**Course Description:** Includes experiments in measurement, vector motion, momentum and energy, wave and fluid properties and thermodynamics. Provides the laboratory complement for PHYS 2113 (General Physics I) and PHYS 2133 (Engineering Physics I) lecture courses. This course requires a lab fee.

**Prerequisites:** MATH 111 or MATH 1223 or MATH 120 or MATH 1235 or MATH 210 or MATH 2115 with grade of “C” or better

**Co-requisites:** None

**Suggested Enrollment Cap:** 24

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

1. Demonstrate a fundamental understanding of physics concepts and laboratory methods and practices in the areas of measurement, vector motion, momentum and energy, wave and fluid properties and thermodynamics.

2. Perform the collection, organization, analysis, and reporting of experimental data using appropriate units of measure and significant figures, statistical operations, and graphing methods.

3. Use the scientific method to interpret and statistically evaluate experimental results and to write concise and comprehensive laboratory reports.

**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, laboratory reports, projects, homework and/or quizzes. All 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. Measurement

A. Experimental Error

B. Graphing

C. Length Measurement

D. Density Measurement

II. Vector Motion

A. Free fall

B. Vector Addition

III. Momentum and Energy

A. Inertial Balance

B. Center of Gravity and Torque

IV. Wave and Fluid Properties

A. Oscillatory and Wave Motion

B. Sound and Wave Phenomena

C. Fluid Motion

V. Thermodynamics

A. Heat Work and First Law of Thermodynamics

B. Second Law of Thermodynamics