

**Bossier Parish Community College**  
**Master Syllabus**

**Course Prefix and Number:** PHSC 105L

**Credit Hours:** 1

**Course Title:** Elemental Physics Lab

**Course Prerequisites:** Previous credit or current registration in PHSC 105

**Textbook:** College Generated Laboratory Manual

**Course Description:**

Laboratory exercises that support and reinforce concepts taught in PHSC 105.

**Learning Outcomes:**

At the end of this course, the student will

- A. utilize physics laboratory instruments and techniques to perform experiments and measurements and to collect and evaluate results;
- B. demonstrate mathematical skills necessary to compute physical quantities in the physics laboratory; and
- C. integrate data collected through measurement, observation, and calculations to explain selected physics concepts.

To achieve the learning outcomes, the student will

1. demonstrate the meaning and importance of significant figures. (A,B,C)
2. represent measurement data in graphical form. (A,B,C)
3. use measurement instruments (A,B,C)
4. determine experimentally the density of an object. (A,B,C)
5. express how the distance traveled by a uniformly accelerated object changes with time. (A,B,C)
6. express how the velocity of a uniformly accelerated object changes with time. (A,B,C)
7. demonstrate the meanings of the variables (F, m, and a) in Newton's Second Law. (C)
8. demonstrate when linear momentum is conserved and what this means in terms of force and motion. (B,C)
9. demonstrate how work and energy are related. (B,C)
10. calculate work and power of an object. (B,C)
11. calculate the heat necessary to raise the temperature of a given mass of a substance. (B)
12. demonstrate the meaning of the specific heat of a substance. (B,C)

13. complete written lab summaries and questions to analyze, report, and apply experimental data. (A,B,C)

**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 60% on a minimum of 10 laboratory assignments
- minimum average of 70% on the mid-term and final test
- proficiency in the use of selected physics laboratory equipment to collect measurement data

### **Course Grading Scale:**

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

**Attendance Policy:** The college attendance policy is available at <http://catalog.bpcc.edu/content.php?catoid=5&navoid=369#class-attendance>

**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

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[acao@bpcc.edu](mailto:acao@bpcc.edu)

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Equity/Compliance Coordinator

Teri Bashara, Director of Human Resources

Human Resources Office, A-105

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Bossier City, LA 71111

Phone: 318-678-6056

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Reviewed by C. Reed/ April 2021