

Bossier Parish Community College
Master Syllabus

Course Prefix and Number: PHYS 201L

Credit Hours: 1

Course Title: General Physics I Laboratory

Course Prerequisites: Previous credit or current registration in PHYS 201

Textbook: College Generated Laboratory Manual

Course Description: Laboratory experiments in mechanics to accompany PHYS 201. Not intended for engineering majors. Withdrawal from lecture mandates withdrawal from laboratory.

Learning Outcomes:

At the end of this course, the student will

- A. utilize equipment to perform experiments to test principles of physics and utilize sensors and measuring instruments to quantify physical quantities; and
- B. apply algebraic and trigonometric mathematical skills to generate and interpret physics data and compose laboratory reports based on the data and observations.

To achieve the learning outcomes, the student will

1. categorize the types of experimental uncertainty and error, and explain how they may be reduced. (A)
2. distinguish between mass and density and know how to determine experimentally the density of an object. (A,B)
3. distinguish between instantaneous and average velocities. (A,B)
4. demonstrate how the uniform acceleration of an object can be determined from distance and time measurements. (A,B)
5. use Newton's Second Law to measure the force exerted on an object by the Earth's gravitational field. (A,B)
6. demonstrate when linear momentum is conserved and what this means in terms of force and motion. (A,B)
7. investigate the difference in kinetic and potential energy of an object. (A,B)
8. use Archimedes' Principle to determine the densities of objects that sink or float can be determined experimentally. (A, B)
9. determine specific heat experimentally. (A,B)
10. investigate the relationship between pendulum length, pendulum mass, and the period of oscillation. (A,B)

11. complete written laboratory reports and questions, some of which require the proficient use of computers. (A,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.

- satisfactorily completion of a minimum of 10 laboratory experiments
- demonstrated proficiency in the use of physic sensors and/or measuring instruments
- minimum average of 70% on laboratory reports
- minimum average of 70% on tests

Course Grading Scale:

A- 90% or more of total possible points and meet all course requirements.

B- 80% or more of total possible points and meet all course requirements.

C- 70% or more of total possible points and meet all course requirements.

D- 60% or more of total possible points and/or failed to meet one or more of the course requirements

F- less than 60% of total possible points and/or failed to meet one or more 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

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

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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 C. Reed/ April 2021