

Bossier Parish Community College
Master Syllabus

Course Prefix and Number: PHYS 201

Credit Hours: 3

Course Title: General Physics I

Course Prerequisites: MATH 112 or MATH 129; High school physics or PHSC 105 or PHYS 101 recommended but not required

Textbook: Cutnell & Johnson Physics, 12th edition

Course Description:

The introductory semester of a two semester problem-centered study in general physics. Designed for science and pre-medical majors requiring algebraic and trigonometric based solutions. Includes a study of vectors, kinematics, Newton's laws, momentum, work and energy, rotations, oscillations and waves, elasticity and equilibrium, and thermodynamics. Not intended for engineering majors.

Learning Outcomes:

At the end of this course, the student will

- A. utilize appropriate algebraic and trigonometric skills to develop problem solving skills and apply them to physics problems; and
- B. apply critical thinking to comprehend the dynamic interrelationships of energy and motion and to understand and apply these concepts to man's interaction with the physical world.

To achieve the learning outcomes, the student will

1. demonstrate the concepts of velocity and acceleration. (A,B)
2. solve problems dealing with the concept of motion with constant acceleration and free fall. (B)
3. resolve a vector into components. (A)
4. explain the concept of projectile motion. (B)
5. discern Newton's Laws of Motion. (B)
6. solve problems dealing with the concept of force. (A,B)
7. demonstrate knowledge of the concepts of work, energy and power. (A,B)
8. identify the concept of momentum. (A,B)
9. calculate problems of uniform circular motion. (A,B)
10. explain the relationships between translational and rotational quantities. (A,B)
11. calculate pressure, density, specific gravity, and flow rates. (A,B)
12. calculate specific heat, linear expansion, mechanical equivalent of heat. (A,B)
13. explain the kinetic molecular theory. (A,B)
14. calculate basic properties of waves, springs, pendulums and sound. (A,B)

15. define the terminology used to describe waves. (B)
16. explain how waves are described mathematically. (A)
17. describe the principle of superposition. (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 60% on unit tests
- minimum 50% on comprehensive final test
- satisfactory review of scientific literature

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>

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 C. Reed/ April 2022