

Syllabus

CODE PHYS-121

TITLE: General Physics I

INSTITUTE: STEM

DEPARTMENT: Physics

COURSE DESCRIPTION: The student will employ calculus in the development of the basic concepts of vectors; static's, kinematics, dynamics, work and energy; momentum; rotational mechanics; molecular and thermal properties of matter; wave motion; and sound.

COREQUISITES: MATH 171

CREDITS: 4

LECTURE HOURS: 3

LAB HOURS: 2

REQUIRED MATERIALS:

TEXTBOOK: SEE WWW.BROOKDALECC.BKSTR.COM

SCIENTIFIC CALCULATOR

ADDITIONAL TIME REQUIREMENTS:

(Identify open lab or other lab requirements)

INTENDED COURSE LEARNING OUTCOMES/COURSE GOALS (CORE COMPETENCIES):

Upon successful completion of this calculus-based general physics I course, students will be able to:

- Communicate information and ideas about the basic concepts of experimental and theoretical physics in mechanics and thermodynamics clearly and effectively in the written and spoken form (**COMMUNICATION & INFORMATION LITERACY**).
- Apply the scientific method, fundamental principles of physics in mechanics and thermodynamics, as well as mathematical techniques in calculus to solve problems (**MATHEMATICAL/SCIENTIFIC REASONING & CRITICAL THINKING**).
- Use instruments and computers to gather and analyze data in laboratory (**TECHNOLOGICAL LITERACY**).

COURSE CONTENT:

The course is comprised of the following eleven units:

- 1 Introduction: Physics and Measurement
- 2 Motion in One Dimension
- 3 Vectors
- 4 Motion in two Dimensions
- 5 The Laws of Motion
- 6 Energy of a System
- 7 Conservation of Energy
- 8 Linear Momentum and Collisions

- 9 Rotation, Rolling Motion, and Static Equilibrium
- 10 Fluid Mechanics
- 11 Oscillating Motion, Wave and Sound
- 12 Heat and Thermodynamics

GRADING STANDARD:

1. Testing: There will be three tests as follows:

Test 1 - includes Unit 1 through Unit 4 (20 %).

Test 2 - includes Unit 5 through Unit 7 (20 %).

Test 3 - includes Unit 8 through Unit 12 (20 %).

These tests may be given during class time or scheduled for the testing center. If you fail to take a test when scheduled, a grade of zero will be assigned. There are no make ups on tests.

2. Homework (5%) Homework for every chapter is to be completed and graded on WebAssign by the assigned due date.

3. Quizzes: (15 %) There will be about a 15-minute quiz on the problems from homework. There are no make-up on these quizzes.

4. Laboratory: (20%) You will be provided with a list of the laboratory experiments which must be performed to get credit for the course. You will write a laboratory report for each experiment according to the format given in your lab manual. Laboratory reports will be averaged into a final grade of twenty percent.

COURSE GRADE

The final grade assigned will be:

92 - 100	A
89 - 91	A-
86 - 88	B+
82 - 85	B
79 - 81	B-
76 - 78	C+
70 - 75	C
65 - 69	D
0 - 64	F

COLLEGE POLICIES:

As an academic institution, Brookdale facilitates the free exchange of ideas, upholds the virtues of civil discourse, and honors diverse perspectives informed by credible sources. Our College values all students and strives for inclusion and safety regardless of a student's disability, age, sex, gender identity, sexual orientation, race, ethnicity, country of origin, immigration status, religious affiliation, political orientation, socioeconomic standing, and veteran status. For additional information, support services, and engagement opportunities, please visit www.brookdalecc.edu/support.

For information regarding:

- ◆ Brookdale's Academic Integrity Code
- ◆ Student Conduct Code
- ◆ Student Grade Appeal Process

Please refer to the [BCC STUDENT HANDBOOK AND BCC CATALOG](#).

NOTIFICATION FOR STUDENTS WITH DISABILITIES:

Brookdale Community College offers reasonable accommodations and/or services to persons with disabilities. Students with disabilities who wish to self-identify must contact the Disabilities Services Office at 732-224-2730 (voice) or 732-842-4211 (TTY) to provide appropriate documentation of the disability, and request specific accommodations or services. If a student qualifies, reasonable accommodations and/or services, which are appropriate for the college level and are recommended in the documentation, can be approved.

MENTAL HEALTH:

- Mental Health Crisis Support: From a campus phone, dial 5555 or 732-224-2329 from an external line; off-hours calls will be forwarded to BCC police (2222 from a campus phone)
- Psychological Counseling Services: 732-224-2986 (to schedule an appointment during regular hours)

ADDITIONAL SUPPORT/LABS:

The Instruction Assistant is available for you in Room MAS-117.

The syllabus is intended to give student guidance in what may be covered during the semester and will be followed as closely as possible. However, the faculty member reserves the right to modify, supplement, and make changes as the need arises.