

# PHYSICS (PHYS)

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## **PHYS 101 Introductory Physics I (GL) (4 credits)**

This course is for students requiring noncalculus based physics. It is a presentation of the fundamentals of physics emphasizing mechanics, heat and wave motion. Physics is treated as a living, expanding adventure that can turn you on to a more perceptive view of physical reality. Insight into the structure, the beauty and the importance of physics is achieved by study and discussion of the central ideas and principles of physics and their relation to the everyday environment. Course meets for 45 hours of lecture and 30 hours of laboratory and 15 hours of discussion per semester. MATH 109 may be taken at the same time.

Prerequisite(s): (MATH 109 (may be taken concurrently)) or (MATH 203)

## **PHYS 102 Introductory Physics II (GL) (4 credits)**

This course is for students requiring noncalculus based physics, presenting fundamentals of physics including electromagnetism, relativity, structure of matter, atomic and nuclear physics. Course meets for 45 hours of lecture, 30 hours of laboratory and 15 hours of discussion per semester. Usually offered in spring semester.

Prerequisite(s): PHYS 101

## **PHYS 200 General Physics I Lab (GL) (1 credit)**

This is an introductory laboratory course designed to accompany General Physics I (Physics 203) that explores basic physical concepts in vectors, laws of motion, force and energy; and principles of mechanics, collisions, linear and angular momentum, rotation and gravitation. Course meets for 45 hours per semester. Pre or co-requisite: PHYS 203

Prerequisite(s): (MATH 203 and PHYS 203 (may be taken concurrently))

## **PHYS 201 General Physics I: Mechanics (GL) (4 credits)**

This course is the first semester of a calculus-based general physics course sequence. Topics covered include laws of motion, force and energy; principles of mechanics, collisions, linear momentum, rotation, angular momentum, gravitation and oscillations. This course integrates conceptual understanding with extensive problem solving and laboratory experience. Course meets for 45 hours of lecture, 45 hours of laboratory and 15 hours of discussion/problem solving per semester. Students will not earn credit for both PHYS 201 AND (PHYS 200 OR PHYS 203). Course fee.

Prerequisite(s): MATH 203

## **PHYS 203 General Physics: Mechanics and Particle Dynamics (GS) (3 credits)**

This course is the first semester of a calculus-based general physics course sequence. Laws of motion, force and energy; and principles of mechanics, collisions, linear momentum, rotation and gravitation are studied and used for problem solving. Course meets for 45 hours of lecture and 15 hours of discussion/problem solving per semester. This course will no longer be offered at HCC and has been replaced by PHYS 201 which combines lecture and lab.

Prerequisite(s): MATH 203

## **PHYS 204 General Physics II: Heat, Electricity and Magnetism (GL) (4 credits)**

This second semester of a calculus-based general physics course sequence covers heat, kinetic theory and thermodynamics; electricity, magnetism, electrodynamics and ac circuits. Course meets for 45 hours of lecture, 45 hours of laboratory, and 15 hours of discussion/problem solving per semester. Usually offered in the fall semester. Course fee.

Prerequisite(s): (PHYS 203 or PHYS 201 and MATH 204)

## **PHYS 205 General Physics III: Waves, Optics and Modern Physics (4 credits)**

This third semester of a calculus-based general physics sequence covers mechanical and electromagnetic waves, geometrical optics, interference and diffraction, relativity, and modern physics. Course meets for 45 hours of lecture, 45 hours of laboratory, and 15 hours of discussion/problem solving per semester. Offered only in the spring semester. Course fee.

Prerequisite(s): PHYS 204