

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: PHY 201

Credits: 4

Course Title: General College Physics I

Course Description (including lecture hours, lab hours, total contacts)

Teaches fundamental principles of physics on an algebra/geometry/trig math level. Covers mechanics, fluids, and thermodynamics. Students should consult the requirements of their individual program and transfer school to determine the correct course and the transferability of course to senior institution. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

General Course Purpose

The credits earned in this course can be applied to the Science AS degree.

Course Prerequisites/Corequisites (*Entry-level competencies **required** for enrollment*)

Prerequisites: MTH 163 or MTH 166 or MTH 115 and 116 or equivalent of college algebra with some geometry and trigonometry.

Course Objectives (Each item should complete the following sentence.)

Upon completing the course, the student will be able to:

- a. Apply the language of physics.
- b. Explain and apply some of the basic laws of physics.
- c. Explain how the natural laws of physics are used both qualitatively and quantitatively and apply these laws to experimental situations using mathematical models.
- d. Build a foundation for later study and expansion.

Major Topics to be Included

- a. Units and standards of measurements
- b. The nature and use of vectors
- c. Newton's three laws of motion
- d. Linear and projectile motion
- e. Work, energy, and power
- f. The nature and uses of impulse and momentum
- g. Molecular structure of matter
- h. Elasticity, springs, and simple harmonic motion
- i. Fluids at rest, liquids, and gases, fluids in motion
- j. Heat energy and its effects

Effective Date of Course Content Summary (Month, Date Year): 2/16/09