

PH 211 : GENERAL PHYSICS I

Transcript title

General Physics I

Credits

5

Grading mode

Standard letter grades

Total contact hours

70

Lecture hours

40

Lab hours

30

Recommended preparation

MTH 251.

Course Description

Studies Newtonian Mechanics beginning with basic math concepts and continuing into kinematics, dynamics, uniform circular motion, energy, momentum, and rotational equivalents of some of these topics. At all stages, applications of calculus to the solving of problems will be explored. Lab addresses experiments and applied settings of Newtonian Mechanics along with explorations of diverse methods for analyzing and interpreting scientific data. Required for engineering students and most students planning programs in the physical sciences. Should be taken in sequence.

Course learning outcomes

1. Identify the symbols and constants which are used to express concepts and laws.
2. Describe qualitative meaning of concepts and laws verbally, mathematically, and in writing.
3. Recognize application of concepts and laws to settings in daily life.
4. Apply concepts and laws appropriately to settings drawn from daily life.
5. Use concepts and laws successfully to predict or extrapolate the behavior of an object or system of objects.
6. Use graphical techniques to construct an equivalent alternative representation of the behavior of an object or system of objects.
7. Reinforce understanding through written descriptions and explanations of solution process.
8. Use concepts and laws to estimate a reasonable expectation for some physical value based on defensible evaluation of the physical parameters in the setting.
9. Integrate all of the above to construct a personal understanding of the relationship of this physics to the world.

General education/Related instruction lists

- Science Lab