

PHYC 111 Problem Solving in General Physics I

Course Description

This course is intended to help students master problem solving in physics. Students will work in small groups with the assistance of a professor who will guide their work and teach them to analyze and set up problems on mechanics and thermodynamics. (1 semester hour)

The course is intended to help students succeed in physics.

Recommended co-requisite: This course is recommended for students enrolled in PHYC 110 who have not taken high school physics or had an equivalent experience. In addition, students who lack skills in algebra and/or trigonometry (as evidenced by their ACT/SAT scores or mathematics placement test) may choose this course for additional practice in improving those skills.

Course Objectives

The purpose of this course is to enhance the problem solving skills of students enrolled in PHYC 110. The course will complement and supplement the PHYC 110 classroom problem experiences by providing work in small groups. Examples of problems similar to those encountered in the PHYC 110 course will provide students with additional practice and experience in analyzing and solving problems similar to those encountered in PHYC 110.

Course Rationale

Students who have not taken high school physics and later decide to pursue curricular programs requiring PHYC 110 have no opportunities to make adjustments in their programs due to their earlier decisions; they cannot and do not return to high school to address this deficiency. Similarly, students have made decisions concerning their preparation in mathematics that need to be addressed through additional work while taking a course such as PHYC 110. Therefore, the additional practice and experience offered in PHYC 111 will provide the students described above with opportunities to enhance their skill levels and to achieve at a higher academic level.

Course Content, Format, and Bibliography

Problem solving exercises and conceptual questions will be stressed. Topics will be selected from the PHYC 110 syllabus which includes the following: mechanics, fluids, thermodynamics, wave motion, and sound.

Methods of Evaluating Student Performance: Grades will be based on the student's attendance; problem-solving exercises completed both prior to and during the class, and participation in group activities.