

PHYSICS

There are three 50-hour modules which make up the entire Physics program.

Optics PHS 5041-2

In this course, by learning about the scientific method, students will gain a better understanding of optics, as well as of technical phenomena and social changes associated with the development of optics.

This module covers the following topics:

- The propagation of light;
- The behavior of light reflected from plane and curved mirrors;
- The behavior of light refracted by lenses and other substances;
- The electromagnetic spectrum and applications of its various ranges.

Kinematics and Momentum PHS 5042-2

In this course, by learning about the scientific method, students will gain a better understanding of kinematics and momentum, as well as of technical phenomena and social changes associated with the development of mechanics.

This module covers the following topics:

- The perception of motion and the concept of trajectory;
- Analysis of the trajectories of different moving objects;
- Analysis of rectilinear motion and rectilinear motion with uniform acceleration;
- Analysis of the two-dimensional motion of a projectile;
- Applications of the principle of conservation of momentum.

Forces and Energy PHS 5043-2

In this course, by learning about the scientific method, students will gain a better understanding of dynamics, as well as of technical phenomena, environmental consequences and social changes associated with the development of dynamics.

This module covers the following topics:

- The concept of force and the consequences of applying force to an object;
- Gravitational force and its characteristics;
- The motion of an object as a function of work, energy and the conservation of energy;
- Friction between two surfaces and air resistance on objects in motion;
- Archimedes' principle;
- The extension of a spring and pressure;
- The operation of simple and compound machines.