PHY1112 General Physics 2

[45h+45h exercises] 8 credits

This course is taught in the 2nd semester

Teacher(s): Denis Favart, Jan Govaerts
Language: French
Level: First cycle

Aims

Introduction to the basic principles of electricity and magnetism, to the physics of wave phenomena, and to the laws of optics ; of their primary physical meaning and consequences ; and of their actual implementation through both the appropriate mathematical tools, and the physics concepts acquired in the course PHY 1111, General Physics 1, which is the prerequisite to the present one. To develop experience in model building of realistic systems within the framework of physical phenomena of electricity and magnetism, of waves, and of optics, in combination with actual experimental demonstrations and laboratory practicals. Together with PHY 1111, this course provides a coherent curriculum, to be completed with the course PHY 1211, General Physics 3 (second year bachelor's degree).

Main themes

Electricty and magnetism :
. electrostatics ;
. electrical conductors ;
. magnetostatics.
Physics of waves :
. coupled, forced and damped oscillators ;
. progressive waves, wave equations, Doppler effect ;
. reflexion and transmission, standing waves, normal modes of vibration.
Optics :
. reflexion and refraction of light ;
. mirrors and lenses, thin lenses in combination.

Other credits in programs

MAFY11BA	Première année polyvalente en sciences mathématiques et physiques	(8 credits)	Mandatory