LPHY1211

2013-2014

General Physics 3

4.0 credits	30.0 h + 30.0 h	1q

Teacher(s) :	Govaerts Jan ; Lemaitre Vincent ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Electromagnetism : . electromagnetic induction and Maxwell's equations ; . electrical circuits and alternating currents ; . basics of electric and magnetic fields in matter. Physics of waves : . wave packets, phase velocity, group velocity ; . waves in two and three dimensions, polarisation ; . interference and diffraction ; . basics of electromagnetric waves, light propagation.
Aims :	Pursues the discussion of the basic principles of general physics as initiated in the courses PHY 1111 and PHY 1112, with the Maxwell equations of electromagnetism and the wave phenomena of classical physics, including an introduction to electromagnetic waves and light propagation. Exploits also experimental laboratory practicals focused onto the general physics of the first two years of the Bachelor's degree. *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Content :	Traditional teaching organisation, with oral presentations of the content material in a lecture theater in combination with experimental demonstrations, then followed by supervised tutorials and laboratory practicals. The detailed content of the course is structured along the above specifications. The course material is based on, and follows closely the approach and discussions of Volumes 2 and 3 of the Berkeley Physics Course, namely Electricity and Magnetism by E. M. Purcell, and Waves by F. S. Crawford, Jr.
Other infos :	Prerequisites The mathematics and general physics courses of the first year of the Bachelor's degree in both the mathematical and the physical sciences.
Cycle and year of study :	> Bachelor in Physics > Bachelor in Geography : General > Bachelor in Economics and Management > Bachelor in Mathematics > Bachelor in Engineering
Faculty or entity in charge:	PHYS