


4 credits

30.0 h + 15.0 h

Q2

Teacher(s)	G�rard Jean-Marc ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	Depending on the audience's interests, the course introduces to some of the important ideas of physics, to be chosen from among Newton's mechanics, Maxwell's electromagnetism, Einstein's theories of special and general relativity, quantum physics, the physics of condensed matter or the theories of the elementary particles. It concludes with some of the challenges left unanswered by modern physics. No detailed mathematical formulation is developed. Rather, emphasis is put throughout on a discussion of the basic concepts and their actual significance. Applications of these fundamental sciences to advanced modern technologies are also highlighted.
Aims	<p>The fundamental natural sciences, and especially physics, are as much part of the common cultural heritage of humankind as are the arts and the humanities understood in the broadest terms. Indeed, within its specific methodology physics itself attempts to grasp the basic meaning of the Universe and Man's place within it. From the perspective of an exposure to the general culture of science offered to students in the humanities, with only little use of the mathematical language the course discusses the basic and essential significance of the concepts underlying the "revolutions" of physics having led to modern physics. Some common advanced technologies stemming from these advances are also described. The course closes with some of the open challenges of which the possible resolutions will define the physics of the XXIst century.</p> <p>-----</p> <p><i>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".</i></p>
Other infos	Method Weekly lectures course. The student will have to produce a written essay by the end of the course. Practical sessions are organised, the contents of which depend on the themes selected for the course, and may include some experimental realisations, simple mathematical modeling, or bibliographical searches in relation to the course matter. Prerequisites Basic physics and mathematics concepts at the high school level. Evaluation To be specified by the lecturer. Course material and references Robert H. March, Physics for Poets, 3rd Edition (McGraw-Hill, New York, 1992). Other material and references will be suggested by the lecturer depending on the course's contents and methods.
Faculty or entity in charge	PHYS

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Bachelor in Philosophy	FILO1BA	4		
Minor in Scientific Culture	LCUSC100I	4		