

5.0 credits	30.0 h + 15.0 h	2q
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Teacher(s) :	Gérard Jean-Marc ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	1. Introduction : from Newton's theory of gravitation to Einstein's equivalence principle. 2. Mathematical tools : differential geometry; tensors 3. Tests of general relativity around a massive spherical object : gravitational redshift and time dilatation; precession of Mercury perihelion; light deflection; radar echo; black holes; gravitational waves. 4. Cosmology : from Einstein's static universe to Lemaitre's expanding universe.
Aims :	A detailed description of general relativity, including the mathematical tools needed. Introduction to Einstein and Lemaitre's cosmology. <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>
Other infos :	Prerequisites: theory of restricted relativity
Cycle and year of study :	> Bachelor in Physics > Master [120] in Physical Engineering
Faculty or entity in charge:	PHYS