

5.0 credits	22.5 h + 15.0 h	2q
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Teacher(s) :	Ruelle Philippe ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	1. Finite groups: fundamental notions and examples ; representations (tensors) ; characters ; tensor products (tensor algebra) ; illustrations on important finite groups (permutations and Young tableaux) ; applications ; 2. Lie groups and Lie algebras: generators ; classical groups ; representations of algebras ; representations of $su(2)$ and tensor products ; lifting to $SO(3)$; the $su(3)$ algebra ; representations of linear groups and Young tableaux ; applications.
Aims :	To give a systematic introduction to the theory of groups and their representations, and to demonstrate its usefulness in physics through selected applications. <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 BAC1 courses in algebra and calculus.
Cycle and year of study :	> Master [120] in Physics > Bachelor in Mathematics > Bachelor in Economics and Management > Bachelor in Engineering > Bachelor in Physics > Bachelor in Geography : General
Faculty or entity in charge:	PHYS