

6.0 credits	45.0 h	2q
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Teacher(s) :	Bieliavsky Pierre ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Basic notions of symplectic geometry : moment maps, symplectic homogeneous spaces and coadjoint orbits. Prequantization : Fedosov's construction of a star product on every symplectic manifolds, systems with symmetry and classification on invariant symplectic star products. Notions of harmonic analysis : case of cotangent bundles and symmetric coadjoint orbits. Geometry of symplectic symmetric spaces. WKB quantization of symplectic symmetric spaces and representation theory. Application to Fuchs-Bessel-Unterberger calculus. Deformations and modular algebras. Non commutative symmetric D-branes in WZW models.
Aims :	Introduction to deformation quantization with applications in Lie theory and harmonic analysis on homogeneous spaces. Links with certain aspects of string theory will be made as well. During the course, the student will be led to use techniques from formal star product theory as well as pseudo-differential operator theory. <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 :	Precursorycourses MATH 2410 Evaluation Oral examination
Cycle and year of study :	> Master [120] in Mathematics > Master [120] in Physics
Faculty or entity in charge:	MATH