

5.0 credits	30.0 h + 15.0 h	1q
-------------	-----------------	----

Teacher(s) :	Claeys Tom ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Tensor bundles on a manifold, sections, skewsymmetric forms, exterior differential, Riemannian metric, arclenght, Riemannian volume element, geodesic as local solutions of a variational principle, Christoffel symbols and their transformation law, affine connection, Levi-Civita theorem, torsion, curvature, Lie derivative, Cartan formula, geodesic as autoparallel curves, covariant derivatives of tensor fields, normal coordinates, Lie algebra associated to a Lie group, Lie's theorems (introductive), exponential mapping, action of a Lie group on a smooth manifold, invariant tensor fields, isometries, homogeneous spaces, reductivity and invariant connections, symmetric spaces.
Aims :	Ability of defining, describing and using on specific examples that are homogeneous spaces of Lie groups basic notions of differential geometry attached to the ones of Riemannian structure and affine connection. <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 Géométrie et topologie différentielles I  Evaluation Written examination.
Cycle and year of study :	<a href="#">&gt; Master [120] in Mathematics</a> <a href="#">&gt; Master [60] in Mathematics</a>
Faculty or entity in charge:	MATH