Course title	Differential Geometry
Institute/Division	Faculty of Computer Science and Telecommunication/ Department of Mathematics
Course code	F-2.DG
Erasmus subject code	11.1
Number of contact hours**	45 lecture hours (45h)
Course duration	1 semester (Fall)
ECTS credits	6
Course description (max 100 words)	Definition of a manifold, maps, atlas, submanifolds, Smooth maps between manifolds, submersions, immersions Vector bundles, tangent and cotangent bundles, vector, and tensor fields, one-parametric group of a vector field, differential forms, exterior differentiation, Lie differentiation. Linear connection on a vector bundle. Tensor of curvature , tensor of torsion, geodesics, normal coordinates, Bianchi identity. Riemannian geometry, Riemann spaces, Levi-Civita connection, sectional curvature, Riemannian manifolds of constant sectional curvature, metric in a Riemannian space. Hopfa-Rinow theorem
Literature	
Course type/organization	- Lectures (30h), - Exercises(15h)
Assessment method	Written exam
Prerequisites	
Primary target group	Students of mathematics
Contact person	Dr hab. Włodzimierz Jelonek
Remarks	

  *please insert one of the following codes:
11.0 Mathematics, Informatics
11.1 Mathematics
11.2 Statistics
11.3 Informatics, Computer Science
11.4 Artificial Intelligence
11.5 Actuarial Science
11.9 Others Mathematics, Informatics

**1 lecture hour=45 minutes