Title:	**Differential Geometry**
Lecture hours:	30
Study period: (summer/winter)	winter or summer
Number of credits:	5
Assessment methods:	exam
Language of instruction:	English
Prerequisites:	basics of Linear Algebra with Geometry and Calculus
Course content:	1.Plane and space: Linear Algebra and Geometry. 2.Curves in plane and space: vector function of one variable, parameterized curves, curvature, space curves. 3. Regular surfaces: parameterizations of surfaces, Measurement in curved coordinates: the 1. fundamental form, Normal sections and normal curvature, Normal and geodesic curvature; the second fundamental form, Principal curvatures, Gaussian curvature and Mean curvature, Special surfaces
Learning outcomes:	1. Students will understand and apply theorems related to curves and surfaces embedded in the Euclidean Space. 2. Sudents will understand and apply results of tensor Calculus and the language of differential forms. 3. Students will prove basic results in Differential Geometry of Curves and Surfaces, as embedded in the Euclidean Space as well as abstract manifolds of dimensions 1 and 2. 4. Students will be able to write solutions to problems and extend theoretical proofs to examples.
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Contact (email address):	kamrok@ukw.edu.pl
Literature:	1.Martin Roussen, Elementary differential geometry 2. Serge Lang, Fundamentals of differential geometry 3. Andrew Pressley, Elementary differential geometry