Title:	# Complex Analysis
Lecture hours:	45
Study period: (summer/winter)	winter or summer
Number of credits:	6
Assessment methods:	Written test
Language of instruction:	English
Prerequisites:	basics of Calculus
Course content:	Complex numbers, polar form, complex plane; Complex differentiability, holomorphic functions; Examples including the exponential function, the trigonometric function; Power series, radius of convergence, analytic functions; Path integrals in the complex plane, Cauchy integral theorem, Cauchy's integral formula; Laurent series; Isolated singularity: removable singularity, pole, essential singularity; Residues.
Learning outcomes:	By the end of the course students should know notions of holomorphic and analytic functions and their equivalence, radius of convergence of power series and the way to compute it, Cauchy integral theorem, Cauchy's integral formula. They should be able to expand holomorphic functions into Taylor and Laurent series, to define isolated singularities and to use residues to compute path integrals.
Name of lecturer:	dr Waldemar Sieg
Contact (email address):	waldeks@ukw.edu.pl
Literature:	1. M. Beck, G. Marchesi, D. Pixton, L. Sabalka, “A first course in Complex Analysis”, version 1.53, http://math.sfsu.edu/beck/papers/complex.pdf 2. Ch. Berg, "Complex analysis", 2012, http://www.math.ku.dk/noter/filer/koman-12.pdf