Title:	**Generalized Integrals (special course)**
Lecture hours:	30
Study period: (summer/winter)	winter or summer
Number of credits:	5
Assessment methods:	test, homework assessment
Language of instruction:	English
Prerequisites:	basics of Real Functions Theory
Course content:	Kurzweil-Henstock integral; McShane integral; Perron integral; classical Perron integral and δ-variation; Denjoy-Perron integral; applications.
Learning outcomes:	By the end of the course students should define and recognize differences between various modes of integrability: Newton, Riemann, Kurzweil-Henstock, McShane, Perron, Dejoy-Perron. She/he should be able to know and apply various criteria of integrability and provide examples of nonintegrable and integrable functions. She/he should recognize and describe connections between generalized integrability and classical Measure Theory, concerning e.g. variation and absolute continuity of measures.
Name of lecturer:	Dr Piotr Sworowski
Contact (email address):	piotrus@ukw.edu.pl
Literature:	Robert G. Bartle, A modern theory of integration, Graduate Studies in Mathematics, 32, AMS, Providence 2001 Russell A. Gordon, The integrals of Lebesgue, Denjoy, Perron, and Henstock, Graduate Studies in Mathematics, 4, AMS, Providence 1994