Title: Set-valued analysis

STATUS: OPTIONAL A

STRUCTURE	Lect.	Lab.
CLASS HOURS	30	0
GRADING	E	0
ECTS	3	

SEMESTER					
1	2	3	4	5	6
■					

LECTURER

dr hab. Jerzy Motyl, prof. UZ

PRE-REQUISITES

mathematical analysis, functional analysis

COURSE OBJECTIVES (LEARNING OUTCOMES)

Set-valued analysis, Properties and applications of multifunctions.

COURSE CONTENT

Limits of sets. Hausdorff metric and different types of continuity of set-valued mappings. Measurability of set-valued functions. Selection problems: minimal, Tschebyshev and barycentric selections. Michael and Kuratowski Ryll-Nardzewski selection theorems. Aumann integral and its properties. Differentiability of set-valued mappings with applications to convex analysis

LITERATURE

1. J.P. Aubin, A. Cellina, Differential inclusions, Springer verlag 1984.
2. J.P. Aubin, H. Frankowska, Set-valued analysis, Birkhäuser 1990.
3. M. Kisielewicz, Differential Inclusions and Optimal Control, PWN – Kluwer Acad. Publ. 1991.
4. J.P. Aubin, I. Ekeland, Applied Nonlinear Analysis, Wiley 1984.

ASSESSMENT

examination