Study programme(s): Mathematics

Level: doctoral studies

Course title: Ordered set theory 1 (AL-17)

Lecturer: Branimir M. Šešelja

Status: optional

ECTS: 10

Requirements: none

Learning objectives

Acquiring knowledge in most important orderings in mathematics, their properties and role in mathematical theories.

Learning outcomes

Minimal: Acquiring and understanding the fundamental notions and relevant properties connected with orderings.

desirable : Ability of individual and creative solving of advanced problems in orderings and essential understanding of most important notions and properties of ordered structures.

Syllabi

Basic notions and claims: fixed points, closure operators, completions.
Chains and anti-chains. Well orderings.
Products of orders, cardinal power. Lattices.
Complete, algebraic and compact ordered sets.

Literature

1. B.S.W. Schröder, *Ordered sets*, an Introduction, Birkhäusser, 2003.
2. E. Harzheim, *Ordered Sets*, Springer, 2005.
3. M. Erne, *Algebraic ordered sets and their generalizations*, In: Rosenberg, I., and Sabidussi, G. (eds.), Algebras and Orders. Kluwer, Amsterdam, 1993..

Weekly teaching load				Other: 0
Lectures: 2	Exercises 0	Other forms of teaching: 0	Student research: 6	

Teaching methodology

Theoretical lessons with examples; permanent interaction and communication with students.

Grading method (maximal number of points 100)

Pre-exam obligations	**points**	**Final exam**	**points**
Colloquia	50	Written exam	50