

Study program: Mathematics (Ph.D. program)			
Course: Boolean Algebras			
Course instructor(s): Miloš Kurilić			
Course type (compulsory/elective): elective			
Credit points: 10 ECTS			
Prerequisites: -			
Course objectives: Introduction to the theory of Boolean algebras and Boolean spaces.			
Learning outcomes:			
<i>Minimal:</i> Understanding of the studied parts of the theory of Boolean algebras through reproduction of its main results.			
<i>Desirable:</i> Deeper understanding of the theory, through more sophisticated examples, applications and connections to other braches of mathematics.			
Course description (outline): Boolean algebras. Infinitary operations. Morphisms. Cardinal invariants. Properties of distributivity. Completeness, the Boolean completion of a partial order. Boolean spaces. Topological duality. Cardinal functions on Boolean spaces. The Borel algebra and the reduced Borel algebra. Baer's theorem. Baer's property. The algebra of a measure. The algebra $P(N)/Fin$. The Stone-Čech compactification.			
References:			
1. P. Halmos, Lectures on Boolean Algebras, van Nostrand, Princeton, 1963.			
2. R. Sikorsky, Boolean Algebras, Springer Verlag, 1964.			
3. Handbook of Boolean algebras, (J. D. Monk ed.), North-Holland, Amsterdam, 1989.			
Active teaching hours	Theoretical classes: 2	Practice classes: -6	
Methods of teaching: Lectures, with active participation of the students, discussion, etc.			
Grading structure			
Pre-exam obligations	Points	Exam	Points
Colloquia	50	Oral exam	50
Seminars			