Study program: Mathematics (Ph.D. program)

Course: Probability Theory

Course instructor(s): Danijela Rajter-Ćirić

Course type (compulsory/elective): elective

Credit points: 10 ECTS

Prerequisites: -

Course objectives:

Acquiring knowledge in advanced probability theory.

Learning outcomes:

Students will study different fields in probability and increase their knowledge from basic studies.

Course description (outline):

Probability spaces, random variables, expectation, measure and integration theory in probability, Independence and sums of random variables, Convergens, Stochastic processes and Brownian motion, Conditional expectation, Martingales.

References:

1. B. Fristedt, L. Gray, *A Modern Approach to Probability Theory*, Birkhauser, 1997.
2. O. Kallenberg, *Foundations of Modern Probability*, Springer, 2001.

Active teaching hours	**Theoretical classes:** 4	**Practice classes:** -

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			