Level: bachelor				
Course title: Rings, Fields and Galois Theory (M4-21)				
Status: obligatory				
ECTS: 5				
Requirements: passed exams in Linear Algebra (M4-09) and Group Theory (M4-18)				
Learning objectives Introducing the students to the elements of classical algebra (associative rings, fields, algebraic equations) and their importance in the system of mathematical disciplines.				
Learning outcomes *Minimal* Students should master the principles of higher algebra and be able to solve simpler problems related to the theory of algebraic equations. *Desirable* Students should be able to solve more complex problems independently and creatively, and to show in-depth understanding of all relevant parts of the theory.				
Syllabus Rings. Isomorphism theorems. Ideals in commutative rings. Fields. Kronecker's Theorem. Algebraically closed fields - algebraic closures. Normal and separable extensions. Perfect fields. Finite fields. Primitive element theorem. Galois group of a field. Fundamental theorem of the Galois Theory. Radical extensions of a field and normal closures of that extension. Solvability of algebraic equations via radicals. Geometric constructions.				
Weekly teaching load				Other: 0
Lectures: 3	Exercises: 1	Other forms of teaching: 0	Student research: 0	