

<b>Study programme(s):</b> Master in Mathematics Teaching (MP), Mathematics (MA)			
<b>Level:</b> master			
<b>Course title:</b> Rings, Fields and Galois Theory (MA-03)			
<b>Lecturer:</b> Milan Z. Grulović			
<b>Status:</b> obligatory			
<b>ECTS:</b> 5			
<b>Requirements:</b> Linear algebra (M4-09), Group theory (M3-20)			
<b>Learning objectives:</b> Introducing the students to the elements of classical algebra (associative rings, fields, algebraic equations) and their importance in the system of mathematical disciplines.			
<b>Learning outcomes:</b> <i>Minimal:</i> Students should master the principles of higher algebra and be able to solve simpler problems related to the theory of algebraic equations. <i>Desirable:</i> Students should be able to solve more complex problems independently and creatively, and to show in-depth understanding of all the relevant parts of the theory.			
<b>Syllabus:</b> 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.			
<b>Literature</b> 1. V. Perić, Algebra I-II, Svjetlost, Sarajevo, 1991. (3.ed.) 2. S. Crvenković, I. Dolinka, R. S. Madarasz, Odabrane teme opšte algebre, Univerzitet u Novom Sadu, 1998. 3. Z. Stojaković, Đ. Paunić, Zbirka zadataka iz algebre, Univerzitet u Novom Sadu, 1998.			
<b>Weekly teaching load</b>			Other: 0
Lectures: 3	Exercises: 1	Other forms of teaching: 0	Student research: 0
<b>Teaching methodology</b> Lectures are presented using classical teaching methods and supported by beamer presentations. Exercises are used to practice and analyse typical problems and their solutions. The ability of application of the theoretical knowledge is checked through independent solving of exercises on two colloquia. The final exam is oral and a student is supposed to demonstrate general understanding of the theoretical material presented.			
<b>Grading (maximum number of points 100)</b>			
<b>Pre-exam obligations</b>	<b>points</b>	<b>Final exam</b>	<b>Points</b>
Colloquia	50	Oral exam	50