Study Program: Mathematics	
Type and level of studies: Bachelor studies, VI semester	

Course name: Algebra 3

Lecturer: Stana D. Cvejić

Status: elective

ECTS: 8

Attendance Prerequisites: none

Course aims

Introducing students to the selected concepts of group theory and Galois theory and their role in the system of mathematical disciplines.

Course outcome

Mastering more advanced principles of higher algebra and the ability to solve simpler problems related to group solving and the theory of algebraic equations.

Course content

Theoretical part

Normal and compositional sequences. Solvable groups. Some classes of finite solvable groups. Irreducible polynomials. Polynomial decomposition field and normal extension. Algebraically closed fields. Separable extensions. Galois groups of polynomials. Galois theory.

Practical part: Exercises, Other forms of teaching, Study research work

Proving the (in) solvability of individual groups. Criteria for irreducibility of polynomials. Determining the field of decomposition. Determination of the Galois group.

Literature

1. М. Груловић, *Основи теорије група*, Универзитет у Новом Саду, 1997
2. С. Црвенковић, И. Долинкаа, Р. С. Мадарас, *Одабране теме опште Алгебре*, Универзитет у Новом Саду, 1998
3. Љ. Кочинац, А. Мандак, *Алгебра 2*, ПМФ Приштина, 1997
4. В. Перић, *Алгебра I-II* , Свјетлост, Сарајево 1991
5. Стојаковић, Ђ. Паунић, *Збирка задатака из алгебре*, Универзитет у Новом Саду, 1998

Lectures: 2	Practical classes: 2	Other forms of teaching:

Teaching methods

Classical teaching methods are used in lectures. The students practice the presented principles and analyse typical problems and their solutions.

Assessment (maximum 100 points)			
Course assignments	**points**	Final exam	**points**
activity during lectures	**10**	written exam	**20**
practical classes	**-**	oral exam	**30**
term test(s)	**40**	....	
seminar(s)			
Total	**50**		**50**