Incoming student mobility

Name of UNIOS University Unit: DEPARTMENT OF MATHEMATICS

COURSES OFFERED IN FOREIGN LANGUAGE
FOR ERASMUS+ INDIVIDUAL INCOMING STUDENTS

Department or Chair within the UNIOS Unit	Department of Mathematics

Study program	- Undergraduate university study programme in Mathematics and Computer Science - Undergraduate university study programme in Mathematics - Graduate Mathematics and Informatics Education Study Programme

Study level	Undergraduate (Bachelor)

Course title	Algebra
Course code	M083
Language of instruction	English
Brief course description	Course content. 1. Groups. Gruopoid, semigroup, monoid, group. Group homomorphisms and isomorphisms. Finite groups, Lagrange theorem. Normal subgroups and quotient groups, isomorphism theorems. Groups of permutations, action of groups, Cayley theorem. Cyclic groups. Sylow theorems. Solvable groups. 2. Rings and module. Rings and ideals. Quotient rings. Ring homomorphisms and isomorphisms. Skew fields and fields. Ring of polynomials. Modules and vector spaces. 3. Integral domains. Quotient fields. Maximal ideals and prime ideals. Principal ideal domains. 4. Factorial rings. Prime and irreducible elements in the rings. Factorisation in rings of polynomials, Gauss lemma and Eisenstein criterium. 5. Field extensions. Degree of an extansion and finite extensions. Algebraic extensions. Minimal polynomial. Splitting fields. Finite fields. Algebraic closure. Ruler and compass constructions. 6. Galois theory. Field automorphisms. Galois group of an extension. Galois group of a polynomial. Separabile polynomials and separabile extensions. Normal extensions. Fundamental theorem of Galois theory. Solvability in radicals.

Form of teaching	Consultative teaching.
Form of assessment	Attending lectures and exercises is required. The exam consists of written and oral part, and can be taken after completion of lectures and exercises. During the semester students can take preliminary exams that replace written exam.
Number of ECTS	6
Class hours per week	2+2+0
Minimum number of students	
Period of realization	Summer semester
Lecturer	Ivan Matić