Program	Level		First cycle			
	Name of the program		Pure Mathematics, Mathematics Education			

COURSE

Course title	**Algebra II**				
Course code	Semester	Course status		ECTS	Contact hours (L+AE+LE)
PMAT 360	VI	Mandatory course		6	3+3+0
Lecturer					
Course Goals	Achieving advanced knowledge in group theory, fields theory and Galois theory.				
Learning Outcomes	At the end of this course, students will be able to understand both basic and advanced terms from group theory, theory of fields and Galois theory. Students will be familiar with fundamental theorems from these fields and main constructions. Students will be able to solve problems and tasks from these fields by using basic techniques. Also, students can attend and follow more advanced Algebra courses and courses where Algebra is applied.				

COURSE CONTENT

- Groups. Direct product of groups. Finitely generated Abelian groups. Cauchy's theorem and p-groups. Sylow theorems. Composition series. Solvable groups.
- Rings. Polynomial rings. Euclidean and unique factorization domains. Maximal and prime ideals.
- Field Extensions. Multiplicity of Roots. Normal Extensions. Separable and inseparable extensions. Galois theory. Solvability of polynomials by radicals.

LITERATURE

[1] D. S. Malik, John Mordeson, M. K. Sen, Fundamentals of Abstract Algebra, Mcgraw-Hill College, 1996
[2] Joseph Gallian, Contemporary Abstract Algebra, Brooks Cole, 8 edition, 2012
[3] H. Jamak, Algebra, NIK Sezam, Sarajevo, 2004.
[4] Serge Lang, Algebra, Springer-Verlag, 2002
[5] Z. Stojaković, Đ. Paunić, Zadaci iz algebre: Grupe, prsteni, polja, Univerzitet u Novom Sadu, 1998
[6] G. Kalajdžić, Algebra, Matematički fakultet, Beograd, 1998.

STUDENT WORKLOAD (hours in a semester)

Lectures	45	Exercises	45	Individual work	60	T o t a l	150

GRADING			REMARKS	
Criterion	Maximum points	Minimum points		
Midterm exams	50	30		
Final exam	50	25		
T o t a l	100	55		