

Program	Level		Second cycle				
	Name of the program		Pure Mathematics, Mathematics Education				
COURSE							
Course title	Algebraic Curves						
Course code	Semester	Course status	ECTS	Contact	hours		
				(L+AE+LE)			
PMAT 510	III	Mandatory/ Elective course	8	3+2+0			
Lecturer							
Course Goals	They are acquiring advanced knowledge of algebraic curves in affine and projective planes. Also, this course serves as a preparation for learning algebraic geometry.						
Learning Outcomes	Students will be familiar with theorems from the theory of algebraic curves and main constructions, and they will be able to attend introductory algebraic geometry courses. At the end of this course, students will be able to understand basic algebraic techniques for researching curve properties in the plane. Also, students can connect knowledge from ring theory and projective geometry.						
COURSE CONTENT							
<ul style="list-style-type: none"> - Affine algebraic sets. - Affine and projective varieties. - The Hilbert's basis theorem and Hilbert's Nullstellensatz. - Local properties of plane curves - Projective plane curves - Resolution of singularities. - Riemann-Roch theorem. 							
LITERATURE							
[1] William Fulton, Algebraic Curves, W.A.Benjamin, 1969 [2] Igor. R. Shafarevich, Alexey O. Remizov, Springer Linear Algebra and Geometry, -Verlag, 2013 [3] Igor. R. Shafarevich, Basic Algebraic Geometry 1 Varieties in Projective space, Springer-Verlag, Second Edition, 1994							
STUDENT WORKLOAD (hours in a semester)							
Lectures	45	Exercises	30	Individual work	125	T o t a l	200
GRADING				REMARKS			
Criterion	Maximum points	Minimum points					
Midterm exams	50	30					
Final exam	50	25					
T o t a l	100	55					