



Università degli Studi della Basilicata

DIPARTIMENTO DI MATEMATICA, INFORMATICA ED ECONOMIA

COURSE: Complements of Geometry			
ACADEMIC YEAR: 2015/2016			
TYPE OF EDUCATIONAL ACTIVITY: Basic			
TEACHER: Gabor Korchmaros			
e-mail: gabor.korchmaros@unibas.it		website:	
phone: 0971205839		mobile (optional): 3204238192	
Language: italian			
ECTS: (lessons and tutorials/practice) 6	n. of hours: (lessons and tutorials/practice) 48	Campus: Potenza Department of Mathematics, Informatics and Economics Program: lauera triennale	Semester: first
EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES			
"Complements of Geometry" is an introductory course on fundamentals of the theory of plane algebraic curves defined over a field. A specific objective is to show the interaction between algebra and geometry. The course also serves for the students to improve their expository skills and get used to arguing rigorously in the proofs.			
PRE-REQUIREMENTS Geometry I and Geometry II.			
SYLLABUS Symmetric functions, Sylvester resultant, elimination theory, fundamentals on plane algebraic curves, intersection multiplicity, Bézout's theorem, linear branches, pencil of curves, Bertini's theorem, polar curves, Hessian curves, Plücker's formulas, plane cubics			
TEACHING METHODS Theoretical lessons with Classroom tutorials,			
EVALUATION METHODS Written examination, Oral examination.			
TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL			
Notes distributed during the course,			
books: G. Vaccaro: Elementi della teoria delle curve e superficie, Libreria Eredi Virgilio Veschi, Roma , J.W.P. Hirschfeld, G. Korchmáros, F. Torres, Algebraic curves over a finite field, Princeton University Press, 2008. first two chapters			
INTERACTION WITH STUDENTS Frontal, tutorial by emails also in English.			
EXAMINATION SESSIONS (FORECAST)¹ 2016			
January 15, 22, 29 February 1, 8, 15, 22, 27 June 13 July 4, 11, 25 September 12 26			
SEMINARS BY EXTERNAL EXPERTS Yes within the ERASMUS program			
FURTHER INFORMATION			

¹ Subject to possible changes: check the web site of the Teacher or the Department/School for updates.