



COURSE: Complements of Geometry

ACADEMIC YEAR: 2019/2020

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)	n. of hours: (lessons and tutorials/practice)	Campus: Potenza Department of Mathematics, Informatics and Economics Bachelor in Mathematics	Semester: first
6	48		

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:

- o G. Vaccaro: Elementi della teoria delle curve e superficie, Libreria Eredi Virgilio Veschi, Roma
- o 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

2020 January 15, 22, 29

February 7, 14, 21, 28

June 12

July 3, 10, 24

September 11, 25

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



University of Basilicata Studies

DEPARTMENT OF MATHEMATICS, INFORMATICS AND ECONOMICS

SEMINARS BY EXTERNAL EXPERTS Yes within the ERASMUS program

FURTHER INFORMATION
