



COURSE: Matematiche Complementari

ACADEMIC YEAR: 2019/20

TYPE OF EDUCATIONAL ACTIVITY: Free choice

TEACHER: Maria Rosaria Enea

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website:

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mobile (optional):

Language: Italian

ECTS: 6 CFU

n. of hours: 48

Campus: Potenza
Dept. DIMIE

Semester: II°

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

Introduction to the history and philosophy of infinitesimal analysis and of non-Euclidean geometries.

PRE-REQUIREMENTS

It is necessary to have acquired the fundamental concepts of the courses of the first two years of the course of study

SYLLABUS

Non-Euclidean geometries: The Elements of Euclid. Euclid's attempts to demonstrate the V postulate. Hyperbolic geometry. Poincaré model and Klein model. Outline of hyperbolic geometry.

First developments of the infinitesimal analysis: Archimedes. Galileo's school. French analysts. Newton. Leibniz. The development of the need for rigor in the analysts of the second half of the nineteenth century. Arithmetization process (Cantor, Dedekind, Weierstrass). The role of mathematical logic (Frege, Russell, Hilbert).

TEACHING METHODS

Lecture and discussion in the classroom

EVALUATION METHODS

Oral examination

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

Lecture notes provided by the teacher

INTERACTION WITH STUDENTS

Office hours upon request by mail

EXAMINATION SESSIONS (FORECAST)¹

In 2020: 12/06; 17/07; 16/10; 20/11.

SEMINARS BY EXTERNAL EXPERTS NO

FURTHER INFORMATION

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