

COURSE TITLE

MATHEMATICS 2

(Bachelor in Chemistry)

Prof. Giuseppa Riccobono(e-mail: giuseppa.riccobono@unipa.it)

Classroom site: Viale delle Scienze Edificio 17 (Building 17) M. Ruccia Room

Credits (CFU) = 6

COURSE PROGRAM

face-to-face lectures (4 CFU, 32 hrs)

classroom exercises (2 CFU, 24 hrs)

Integration of rational functions.

Differential equations. First order differential equations. Linear differential equations. Non-homogeneous linear equations.

Vectors. The \mathbb{R}^2 vectorial space. Real functions of two variables defined in \mathbb{R}^2 . Limit of functions defined in \mathbb{R}^2 .

Partial derivatives of functions of two variables. Differentiability and differential of functions of two variables.

Relative and absolute maxima and minima of functions of two variables. Lagrange multipliers.

Paths in \mathbb{R}^2 . Curvilinear integrals and applications. Exact differential equations.

Double and triple integrals in \mathbb{R}^2 and in \mathbb{R}^3 . Change of variables. Formulas of Gauss-Green and applications.

TEXTBOOKS

N.Fusco-P.Marcellini-C.Sbordone, "Elementi di Analisi Matematica due (versione semplificata)" ed. Liguori

P.Marcellini-C.Sbordone, "Esercitazioni di Matematica, V.2, parte I e parte II" ed.Liguori