

COURSE TITLE
CHIMICA ANALITICA
ANALYTICAL CHEMISTRY
(Laurea Triennale in Chimica)

Prof. Roberto Zingales (e-mail: roberto.zingales@unipa.it)
Classroom site: Viale delle Scienze Edificio 17 (Building 17) L. Sacconi Room

Credits (CFU) = **6 + 2**

COURSE PROGRAM

face-to-face lectures (48 hrs, 6 CFU)

The course is devoted to the systematic treatment of chemical equilibrium in aqueous solution and to the theory of volumetric analysis.

The main items are:

Experimental error and statistics

Sampling theory

Monoprotic and polyprotic acid base equilibria

Acid base titrations

Complex formation equilibria

Complexometric titrations, EDTA titrations

Solubility equilibria

Precipitation titrations

Redox equilibria

Redox titrations

classroom exercises (24 hrs, 2 CFU):

Students are introduced to computing techniques to solve problems on aqueous systems at equilibrium. This aims particularly to determine single species equilibrium concentration, to calculate and discuss the shape of titration curves of different kind and to evaluate titration error, buffer capacity and sharpness index.

TEXTBOOKS

D. A. Skoog, D. M. West, F. J. Holler, S. R. Crouch, Fondamenti di Chimica Analitica, EdiSes, Napoli
D. C. Harris, Analisi Chimica Quantitativa