Faculty of Sciences

CHM1381 Quantitative treatment of chemical data

[22.5h] 3 credits

Teacher(s): Daniel Peeters
Language: French
Level: First cycle

Aims

- Bring the chemistry students to treat data linked to experimental data they acquired
- Learn to ally the quality of results with economy of acquisition
- Conceive and planify experiments
- Acquire and treat results of experiments
- Interpret results and develop models allowing to predict studied properties

Main themes

The course must propose the theoretical bases of measure by defining the concepts of samples, population and distribution of measures as well as their main properties. Introduction of hypothesis tests must lead to a critical analysis of data, estimation of errors and to determination of factors affecting measure. The notions of correlation, regression as well as the development of models will be introduced and applied to concrete cases found in current practice in laboratories. Elementary introduction to experimental design will be seen to optimized the experimental processes. Techniques to search for the optimal conditions and localization of extrema will be presented.