

Faculty of Biological, Agronomic and Environmental Engineering

**BIR1312** Introduction to analytical chemistry

[30h] 2.5 credits

This course is taught in the 1st semester

Teacher(s): Joseph Dufey, Yves Dufrêne, Yves Dufrêne
Language: French
Level: First cycle

Aims

Knowledge:

Global view on the chemical methods of analysis.

Fundamental aspects related to these methods: properties of solutions, chemical reactions, spectroscopy, interface phenomena.

Know-how:

Intelligent approach of the chemical analysis: methods (completions, performances), equipment (from principle to performances), role of the operator (setting, protocol, performances.)

Main themes

Introduction

Aqueous solutions: concepts and applications

Properties of precipitates, including the properties of charged surfaces

Oxydo-reduction reactions

Potentiometric methods and membrane properties

Spectrometric methods

Chromatographic methods; link with the phenomena of shared adsorption phases

Chemical analysis and information: standardization and performances.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Precursory courses : CHIM 1151 'Chimie générale: 1e partie'; CHIM 1251 'Chimie générale: 2e partie'

Evaluation : Written examination with problem solving.

Support : Book extracts and lecture notes.

Programmes in which this activity is taught**BIR2** Bio-ingénieur

Other credits in programs

BIR21/A	Première année du programme conduisant au grade de bio-ingénieur (Agronomie)	(2.5 credits)	Mandatory
BIR21/E	Première année du programme conduisant au grade de bio-ingénieur (Environnement)	(2.5 credits)	Mandatory
INCH21	Première année du programme conduisant au grade d'ingénieur civil chimiste	(2.5 credits)	Mandatory
MAP21	Première année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(2.5 credits)	
MAP22	Deuxième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(2.5 credits)	
MAP23	Troisième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(2.5 credits)	
MATR23	Troisième année du programme conduisant au grade d'ingénieur civil en science des matériaux	(2.5 credits)	