Faculty of Biological, Agronomic and Environmental Engineering

BIR1312   Introduction to analytical chemistry

[30h] 2.5 credits

This course is taught in the 2nd 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.

Other credits in programs

BIR13BA/A	Troisième année de bachelier en sciences de l'ingénieur, orientation bioingénieur (option : agronomie)	(2.5 credits)	Mandatory
BIR13BA/E	Troisième année de bachelier en sciences de l'ingénieur, orientation bioingénieur (option : environnement)	(2.5 credits)	Mandatory
FSA13BA	Troisième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil	(2.5 credits)	
INCH22	Deuxième année du programme conduisant au grade d'ingénieur civil chimiste	(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)	