RIS (Rechercher, Identifier, Séparer)

In brief

Course langage: French, English

Presentation

Prerequisites

Non

Learning objectives

The separation of the components of a mixture, their identification and quantification are daily problems for synthetic chemists, both in the laboratory and in industry.
This option aims to address the different aspects of this problem in the form of mini-projects in which a small team will be required to determine a method for separating the components of a mixture and then characterize and, of course, quantify them.

* **Objectives:**
* - Learn to build a scientific approach.
- Learn to define an experimental protocol.

-To implement an experimental protocol.

- Use methods to identify chemical compounds.
- Use methods to quantify the components of a chemical mixture.

Description of the programme

The majority of the time will be devoted to hands-on practice at the chemistry platform. The aim will be to determine and apply the best method to separate the components of a mixture (known in advance).
Then, it will be necessary to quantify and propose methods of identification of the different components of the mixture.

Among the mixtures proposed in previous years, we can mention dyes, active ingredients of drugs or components of foodstuffs (chocolate or tea, for example).
There will also be some presentations of modern techniques of identification and quantification of compounds (NMR, HPLC, IR and UV-Visible spectroscopies ....)

Generic central skills and knowledge targeted in the discipline

This teaching is part of the mastery of complex environments.
It is indeed a question of correctly modeling the system, in order to determine the best solution and to implement it.
As the work is carried out in a small team, it will also be necessary to organize the work of the group to complete the project.

- Modeling a problem
- Find a suitable solution
- Define an experimental protocol
- Implement the protocol
- Have a critical look at the results obtained
- Write a report
- Present results orally.

How knowledge is tested

- Written report

Bibliography

Rouessac, F., & Rouessac, A. (2009). Analyse chimique (7e éd.). Dunod.
Skoog, D. A., & West, D. M. (2015). Chimie analytique (2015) (French Edition) (3e éd.). DE BOECK SUP.

Gilbert, M. T. (1987). High Performance Liquid Chromatography. John Wright.
Snyder, L. R., Kirkland, J. J., & Dolan, J. W. (2009). Introduction to Modern Liquid Chromatography (3e éd.). Wiley.

Teaching team

Innocenzo DE RIGGI
Didier NUEL

Sustainable Development Goal

Clean water and sanitation Responsible consumption and production

Total des heures		**30h**
CM	Master class	2h
TP	Practical work	28h

Useful info

Name responsible for EU

Lead Instructor

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