

Molecule and Materials Characterization II



En bref

- **Langue(s) d'enseignement:** English
- **Forme d'enseignement :** Cours TD
- **Ouvert aux étudiants en échange:** Non

Présentation

DESCRIPTION

The objective of this teaching unit is to acquire basic knowledge of analytical chemistry methods for molecules and materials. The course is divided into 2 chapters:

(A) Chromatography and Mass spectroscopy (9h): This chapter aims in particular to: i) Know the basic principle of GC & MS; ii) Know the different technical devices; Understand the operation and characteristics of the different types of GC & MS instruments (column, detectors, ionization sources, mass analyzers); ii) Exploit in detail a GC & MS spectrum of different types of molecules; iii) Choose the most suitable GC & MS method depending on whether the analysis is targeting a "small" organic molecule or a macromolecule (e.g. protein) with a study of the related applications. Recent developments allow coupling to separation methods for the analysis of complex samples (GC/MS, HPLC/MS)

(B) Interaction of radiation with matter: In this chapter, we will focus mainly on electrons and X-rays. (1) We will describe the different types of phenomena that occur: scattering, absorption, diffraction,...etc (8h)

(2) X-ray diffraction will then be developed. The principle of the technique will be outlined, as well as the information that can be obtained by reading a diffractogram. (7h)

HEURES D'ENSEIGNEMENT

Molecule and Materials Characterization II	Cours Magistral	24h
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PRÉ-REQUIS NÉCESSAIRES

Basic knowledge of separation methods (chromatography), spectroscopy and other analytical methods; as seen in License

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CONTACTS

Pascal Martin

✉ benjamin.doistau@u-paris.fr

Pour en savoir plus, rendez-vous sur > u-paris.fr/choisir-sa-formation

LIEU(X)

➤ Campus des Grands Moulins

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