

SCIENCES, TECHNOLOGIES, SANTÉ

Master Chimie physique et analytique



Niveau d'étude
visé
BAC +5



Durée
2 ans



Composante
Faculté des
sciences et
technologies



Langue(s)
d'enseignement
Anglais



Ouvert en stage
Oui

Parcours proposés

- Advanced spectroscopy in chemistry
- Atmosphere, Clouds and Climate Science (ACCESS)

Présentation

The **Master of Science in Physical and Analytical Chemistry (PAC)** aims at preparing students to become experts in physical chemistry with strong skills in theoretical and practical Spectroscopy. This program is intended for students eager to develop an international culture and looking for a worldwide mobility. The master PAC is a program of excellence fully taught in English, providing students with the necessary tools, knowledge and skills towards doctoral studies, and/or professional industrial careers in chemical analysis. Students will develop a highly specialized know-how and a rare practical experience supported by state-of-the-art technologies. Students are introduced to the fields of specialization: Advanced spectroscopy in chemistry (ASC) applied to the various fields of chemistry (solid state chemistry, catalysis, sustainable chemistry, nanomaterials, biomaterials...) Atmosphere, Clouds and Climate Science (ACCESS), applied to chemistry of the atmosphere.

For details on the 2-year ASC European master's course Joint master degree developed and operated by 5 universities (Lille, Bologna, Helsinki, Krakow and Leipzig) , with mandatory mobility, leading to multiple degree Program and application: <http://www.master-asc.org>

For details on the ACCESS Master: <http://www.Labex-cappa.fr/master-atmosphericenvironment>
<http://www.Labex-cappa.fr/master-atmosphericenvironment>

Objectifs

The Master's programme aims to train highly qualified chemists who are able to understand and master the fundamental principles of physical chemistry while developing advanced expertise in analytical methods (spectroscopy, chromatography, instrumentation). It prepares students to design, implement and validate analytical protocols adapted to complex problems, whether involving research, industrial or environmental samples

Savoir-faire et compétences

Graduates will: acquire competences which make them fit for employment as professional chemists in chemical and related industries or as entrepreneurs; be able to apply modern and advanced spectroscopy techniques within the framework of the most recent European requirements; be able to use the modern theoretical and experimental applications of spectroscopy; reach a standard of knowledge and competence which will give them access to third cycle course units or degree programs (Ph.D.)

Dimension internationale

Formation open to international students

Les + de la formation

A guarantee of quality: accredited master's degree. ASC specialization is acknowledged by the European Union (Erasmus Mundus Joint Master Degree) awarding student scholarships and by the ECTNA Euromaster label (European Chemistry Thematic Network Association). ACCESS specialization is linked to Labex CaPPA (Laboratory of Excellence Chemical and Physical Properties of the Atmosphere) Providing a sound background in Advanced Spectroscopy, both in experimental techniques and in scientific knowledge; Possible students mobility (ASC) within a network of research laboratories spread amongst 5 countries from a large area of Europe in an environment where they will be well looked after. Training for becoming experts in far reaching experimental techniques in Spectroscopy. Developing skills not only towards doctoral studies, but also towards professional activities in industry. The high level of equipment available is unique.

Organisation

Organisation

The master's programme is organised into different knowledge and skills blocks (BCC):

BCC - Apply fundamentals of spectroscopy

BCC - Use numerical tools in chemistry and spectroscopy

BCC – Communicate effectively with scientific tools

BCC - Integrate into professional environments BCC - Analyze processes in atmospheric sciences

BCC - Apply spectroscopy to practical problems

BCC - Implement theoretical and experimental approaches in advanced chemistry and physics

Stages

Stage : Obligatoire

1 stage au S2 et 1 stage au S4.

Admission

Conditions d'admission

For European students and no EEF students: Application: Submit your application by following this link: <https://monmaster.gouv.fr>

For EEF students: Etudes en France <https://www.campusfrance.org/fr/candidature-procedure-etudes-en-france>

Et après

Poursuite d'études

After completing this master's degree, the student can continue his studies with a PhD.

Insertion professionnelle

The **master Physical and analytical chemistry** is mainly research-oriented. A large majority of alumni engage in a Ph.D. program, with the aim of joining a research laboratory in their field of expertise or the Research and Development department of a private company. Never the less, our graduate students also have the proper background and practical skills at Master's level to reach positions of responsibility (production, management, R&D) in international analytical enterprises, fine chemicals industries or in environmental sciences.

Pour en savoir plus sur l'insertion professionnelle des diplômés de l'Université de Lille, consultez les répertoires d'emplois publiés par l'[ODiF \(Observatoire de la Direction des Formations\)](#)

Les fiches emploi/métier du [Répertoire Opérationnel des Métiers et des Emplois \(ROME\)](#) permettent de mieux connaître les métiers et les compétences qui y sont associées.

Référentiel ROME : H1502 - Management et ingénierie qualité industrielle, H1206 - Management et ingénierie études, recherche et développement industriel, H1501 - Direction de laboratoire d'analyse industrielle

Infos pratiques

Autres contacts

Contact administratif et pédagogique :

Pour le parcours ASC :

FST-master-cpa-asc@univ-lille.fr

Pour le parcours ACCESS :

FST-master-cpa-access@univ-lille.fr

Lieu(x)

 Villeneuve d'Ascq

Campus

 Campus Cité scientifique

En savoir plus

Faculté des Sciences et Technologies - FST

<https://sciences-technologies.univ-lille.fr/>

Référentiel RNCP

RNCP38709.

Programme

Advanced spectroscopy in chemistry

Atmosphere, Clouds and Climate Science (ACCESS)