Contacts

Location

UNIVERSITÉ DE PAU ET DES PAYS DE L'ADOUR

College of Sciences and Technology for Energy and Environment

Pau Campus - France

Coordinator

christine.cagnon@univ-pau.fr

florence.pannier@univ-pau.fr

More information

https://formation.univ-pau.fr/m-csv-cmcei

Admission Office

master.programs@univ-pau.fr

How to apply

The application documents must be uploaded on the website:
https://ri.univ-pau.fr/m-programs

Admission requirements

DIPLÔME NATIONAL DE MASTER CONTRÔLÉ PAR L'ÉTAT

Admission requirements

Applicants must hold at least 4 years university level in chemistry and/or biology fields.
For students outside UPPA, integration in the second year is subjected to a selection on curricula with equivalent training level and with sufficient skills in biology, chemistry and environment (Molecular biology, bioinformatics, microbiology, environmental microbiology, ecotoxicology, biostatistics, field sampling and data processing, physico-chemistry, analytical chemistry, environment).
Applicants must be fluent in English, both in writing and speaking. An applicant whose native language is not English has to take a recognized international English test.

English Language Requirements

Minimum required score: CECRL B2 level in English

French Language Requirements

None but French language courses are included in the formation

Detailed Program Facts

Academic Year: Our full academic year runs from September to June

Application: Applications are open from October to March 31st

Program intensity: Full-time

Duration: 1 year

Credits: 60 ECTS

Language: Fully taught in English

Level obtained: Master's degree

Conception : Direction de la communication - Impression : Centre de reprographie - UPPA - Septembre 2024

Master's degree

IN CHEMISTRY AND LIFE SCIENCES

Chemical and Microbiological Characterization for Environmental Issues

UNIVERSITÉ DE PAU ET DES PAYS DE L'ADOUR
COLLÈGE STEE

http://formation.univ-pau.fr/m-csv-cmcei

Overview

Strongly increasing societal demand in the fields of Environment, Sustainable Development and Health, implies a synergy of advanced skills in Chemistry and Biology Sciences. In order to be able to effectively respond to this demand and to implement innovative solutions providing efficient answers to these requests, it is essential to perfectly understand the interaction of contaminants with living organisms and particularly their structures, properties, reactivities/activities in natural ecosystems. The “Chemical and Microbiological Characterization for Environmental Issues” (CMCEI) second year course of the Master in Chemistry and Life Sciences aims to train specialists with knowledge of the most recent advances in analytical chemistry, physico-chemistry, molecular biology and environmental microbiology.

The Sciences and Technologies for Energy and Environment (STEE) College of the Université de Pau et des Pays de l’Adour has been founded within the framework of the prestigious French Initiative of Excellence label I-SITE (Initiatives Sciences, Innovation, Territories and Economy), obtained by our E2S-UPPA project.

Student Learning Outcomes

At the end of this program, the students in the “Chemical and Microbiological Characterization for Environmental Issues” will be able to:

- Show expertise in modern techniques in chemistry, molecular biology, and microbiology,
- Synthesize technical and research documentation to produce a technical study,
- Plan and define a research or R&D project in analytical chemistry, molecular biology, microbiology, or environmental survey,
- Manage and carry out a project,
- Manage field experiments to estimate the efficiency of chemical or biological methods for the protection of the ecosystems,
- Interpret and validate results of chemical and biological analysis,
- Produce a summary report describing the experiments done, the applied methods used and the results obtained.

Opportunities

Sectors

- Environment
- Agribusiness
- Analytical chemistry
- Chemical industries
- Biotechnology

Fields

- Research and Development
- Quality control

Positions

- Academic positions
- Researchers (public institutes or private companies)
- Research and Innovation Engineers
- PhD students

Program objectives

Entirely taught in English, the first semester is devoted to the knowledge of contaminants cycles and to the application of different techniques for the analysis of chemical elements and species of interest in various compartments of environment, the identification of microorganisms presenting a risk for environment or public health, but also quality assurance, critical evaluation of scientific publications and /or technical documentation.

The second semester consists of an 18- to 24-week research internship in the field of chemical and/or biological analysis applied to the environment in the Institute of Analytical Sciences and Physico-Chemistry for Environment and Materials (IPREM) Joint Research Unit teams.

The course gives a large place to learning by scenario projects, which enable the student to understand scientific approach of research as well as to put into practice various techniques and to deepen the reflection on his/her professional project.

M2 - Semester 1 (220,5 to 297 h)

- Trace elements in the environment
- Advanced analytical chemistry
- Statistical tools, chemometrics and quality
- Microbiology and molecular biology for environmental applications
- Research tools and applications
- Language

M2 - Semester 2

- **Internship** in academic or industrial research project