



SCIENCE, TECHNOLOGY, HEALTH

GREEN Graduate Program - Environmental analytical chemistry and microbiology (EACM)

Master Chemistry and Life sciences



ECTS
120 credits



Duration
2 years



Component
Collège
Sciences et
Technologies
pour l'Energie et
l'Environnement
(STEE)



Language(s)
English

Presentation

In 2022, the University of Pau and Pays de l'Adour opened a **5-year Master's degree + PhD program of excellence** in a variety of disciplines linked to **energy and environmental research**, the Graduate School for Energy and Environmental Innovation (GREEN).

Every student accepted into the program will be offered a €5,000 stipend per year for the first two years.

[Apply here from October to March](#)

N.B. Our Master's programs may not open if enrollment is too low.

Objectives

The aim of the Environmental Analytical Chemistry and Microbiology (EACM) graduate program is to form experts with up-to-date knowledge of advanced analytical chemistry, physical chemistry, molecular biology, and environmental microbiology to elucidate the behavior

and fate of contaminants from pollution sources to living organisms, to assess their impacts on ecosystem structure and functioning, and to implement solutions to maintain ecosystems health.

Several key challenges are addressed in this graduate program such as:

- * the promotion of advanced knowledge on isotopes, inorganics, radionuclides, and associated bioinorganic structures, including nanoparticles/nano plastics in different environmental compartments and their biological effects (ecotoxicology);
- * the implementation of Physico-chemical and microbiological processes for remediation strategies;
- * the assessment of the contaminant effects on micro-organisms at several levels of the biological organization (from molecules to communities). These combined approaches provide a unique set of skills to allow the development of eco-concepts and eco-technologies for sustainable development.

Interdisciplinarity and research immersion in laboratories


In order to promote transversal and interdisciplinary activities, all the Graduate Programs proposed by GREEN are identically structured. In addition to the research training which represents 40% of a Master's credits,



the courses offered in each GP are a combination of standard thematic culture courses in the field of Energy and Environment (Sustainability Science, Resilience Alliance, Ecological Economics, and Political Ecology, Health & Ecotoxicology, Energy Law & Policy...) and essential soft skills completed by fundamental and specialized disciplinary courses to fit with the research or topic interest of the students.

Your university

Skills

The program is carried out closely collaborating with the **IPREM** |  - Institute of Analytical Sciences and Physical Chemistry for the Environment and Materials.

Assets

- * €5,000 per year stipend
- * Classes taught in English
- * More than one-third of credit hours acquired in research
- * Integrating research laboratories right from the 1st semester of Master
- * Student-centered learning
- * Multidisciplinarity (Chemistry, Physics, and Biology)
- * Post-graduate studies with a PhD thesis - if the criteria of excellence are met
- * Tutorship and tailor-made programs: each student will have a tutor who will build his curriculum related to his aspirations and research interest.

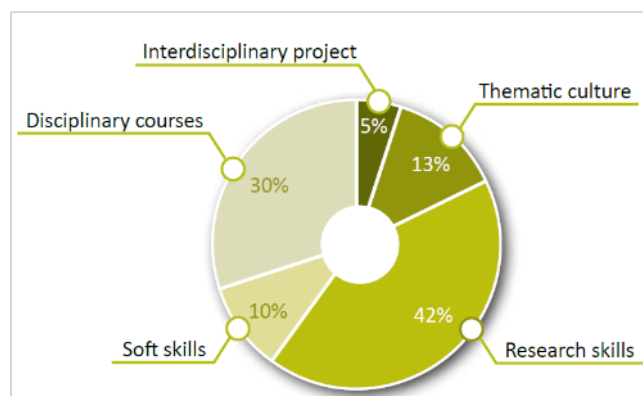
The tutor will also help the student define a series of face-to-face or e-learning courses (up to 20 or 25% for the Science graduate programs) that s/he can easily keep up with.

Organisation

Organization

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In addition to the research training which represents 40% of the master's credits, the courses offered are a combination of common thematic culture courses in the field of Energy and Environment (Sustainability Science, Resilience Alliance, Ecological Economics and Political Ecology, Health & Ecotoxicology, Energy Law & Policy.....) and basic soft skills completed by fundamental and specialized disciplinary courses to fit with the research or topic interest of the students.



Training by project

The research-based training program of our GREEN project follows the active educational approach of "student-based learning". The aim is to guide our students and help them structure their research and innovation projects while giving them a great deal of autonomy.

In the second year, there is a significant reduction in the number of face-to-face courses in favor of project-based learning, to put students in a professional situation so that they can experiment with group work and project management. This framework encourages strong interaction between students, lecturers, and researchers to ensure easier integration into the host research laboratories. The interdisciplinary project proposed in the



third semester should give students from all the graduate programs an opportunity to produce joint, multidisciplinary work.

Admission

Admission requirements

- * The GREEN Graduate school is open to high-potential students from various scientific backgrounds who have completed their undergraduate training with the highest honors and are highly motivated for a dedicated research-focused PhD-track program.
- * Applicants must hold a Bachelor's in Chemistry, Biology, or Environmental sciences.
- * Applicants must be fluent in English, both in writing and speaking.

A non-native English candidate must pass an internationally recognized English test or an English interview with our lecturers.

Minimum required score: CECRL **B2** level in English (Advanced English)

How to apply

Apply here from October to March

And after

Professional insertion

Sectors

- * Environment
- * Agribusiness
- * Analytical Chemistry
- * Chemical industries
- * Biotechnology
- * Life sciences

Fields

- * Research
- * R&D structures

Positions

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

Useful info

Contacts

Head of Teaching

Bahia KHALFAOUI HASSANI

✉ b.khalfaoui-hassani@univ-pau.fr

Secrétariat chimie

✉ secretariat-chimie@univ-pau.fr

Partner laboratories

Institute of Analytical Sciences and Physical Chemistry for the Environment and Materials - IPREM

🔗 <https://iprem.univ-pau.fr/en>

Campus

 Pau