

Contacts

Location

UNIVERSITÉ DE PAU
ET DES PAYS DE L'ADOUR

College of Sciences and Technology
for Energy and Environment
Pau Campus - France

Coordinator

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More information

[http://formation.univ-pau.fr/
m-mse-cpcm](http://formation.univ-pau.fr/m-mse-cpcm)

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



Academic requirements

- Applicants must hold at least a Bachelor degree for the Master 1 level.
- Applicants must hold at least a 4-year university level for the Master 2 level.

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 July

Application: Applications are open from October to March 31st

Program intensity: Full-time

Duration: 2 years

Credits: 120 ECTS

Language: Fully taught in English

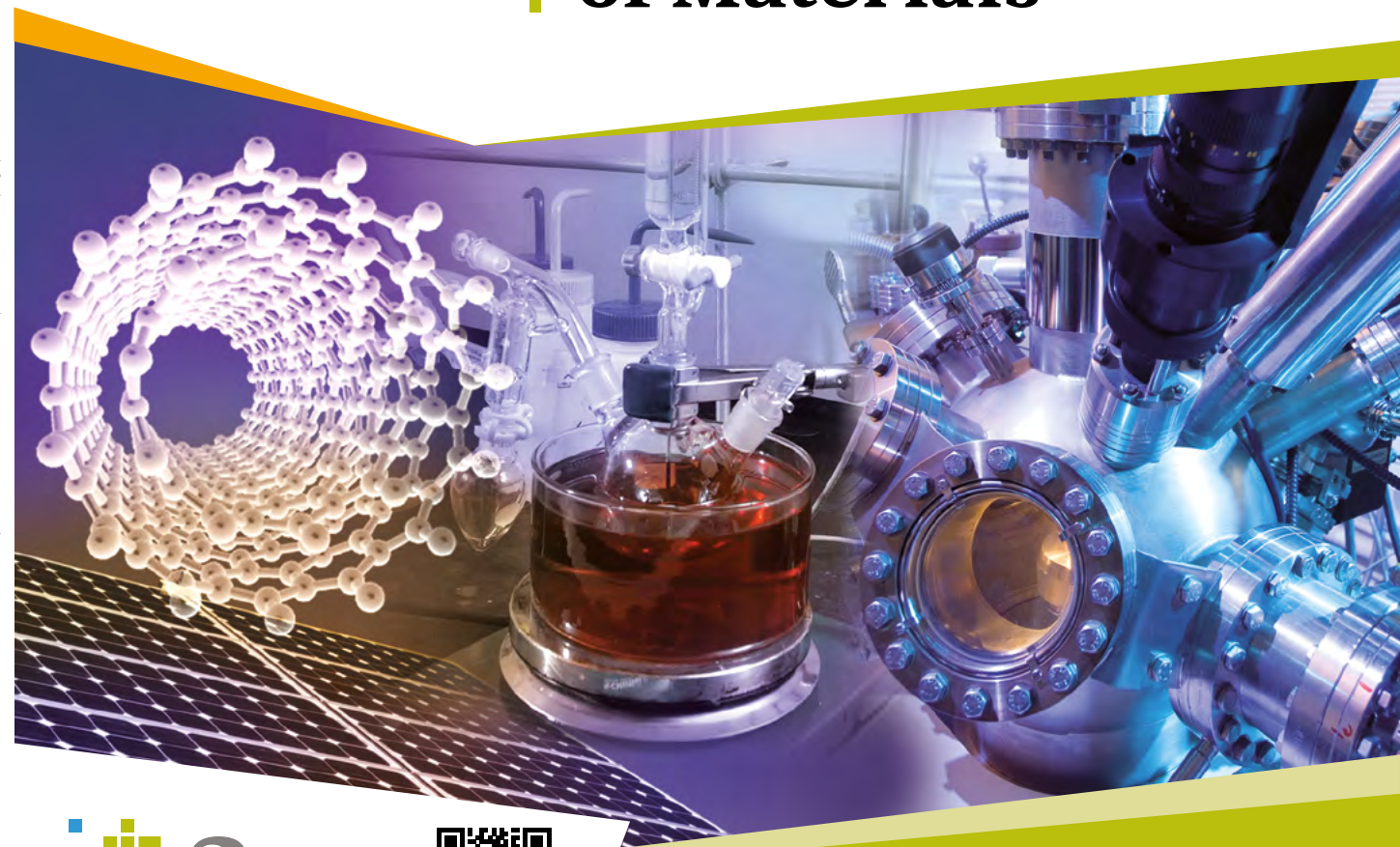
Level: Master's degree

Master's degree CPCM

IN MATERIALS SCIENCE
AND ENGINEERING

Chemistry and Physico-Chemistry of Materials

Conception : Direction de la communication - Impression : Centre de reprographie - LUPPA - Février 2023



Overview

Master CPCM provides a complete education program in the field of materials, by addressing all aspects related to their synthesis/elaboration, their fine characterization and their implementation for specific applications.

The term “Chemistry” refers to synthesis and elaboration aspects, while the term “Physico-Chemistry” refers to characterization science and understanding of mechanisms and phenomena taking place at different scales of the material (micro/nano or surface/bulk).

The training delivered by Master CPCM allows you to find rapidly a job in the industry as senior executive, in all sectors of activity using or designing materials, as soon as you have obtained the Master degree. Alternatively, you can continue your training with a PhD thesis (three years), which is an advantage in several fields of research and development.

Master CPCM relies on recognized senior researchers, professors and assistant professors in the field of chemistry and physico-chemistry, carrying out their research activity in IPREM institute (Institute of Analytical Sciences and Physico-Chemistry for Environment and Materials). <https://iprem.univ-pau.fr/en/institute.html>

Student Learning Outcomes

At the end of this program, the students of the “Chemistry and Physico-Chemistry of Materials” master’s degree will be able to:

- Elaborate materials (organic and inorganic),
- Use various analytical techniques to characterize materials,
- Validate, interpret and model experimental results,
- Produce quality research,
- Carry out a research project.
- Summarize their work (experimental plan, results and their interpretation) in a report and communicate appropriately with experts.

Opportunities

Sectors

- Chemistry
- Energy (photovoltaic, batteries, fuel cells, artificial photosynthesis...)
- Environment (non-polluting materials, pollution control materials and storage...)
- Transport (composite materials, surface treatments...)
- Building (thermal and sound insulating coatings...)
- Cosmetics & life science

Fields

- Research and Development
- Quality control

Positions

- Research and Innovation Engineer
- PhD students

56% are pursuing their studies with a PhD
*30 months after graduation
(class of 2019)*

Program objectives

- Train the students to an advanced specialized level for present and future challenges in materials chemistry, energy, polymers, and modeling.
- Develop their engineering and research skills.
- Prepare students for leading positions in industry and public institutions.

First year

1st semester

- Elaboration of materials (organic, inorganic)
- Physico-chemical properties
- Environmentally friendly materials
- Modeling
- Characterization techniques

2nd semester

- Elaboration of materials (organic, inorganic)
- Physico-chemical properties
- Characterization techniques
- **Industrial internship** (2-3 months in a company)

Second year

1st semester

- Materials for different applications
- Large selection of options (experimental & theoretical approaches of materials)

2nd semester

- **Internship** (4-6 months) in a company or in an academic lab in various fields of materials science (polymers, ceramics, energy storage and conversion, theoretical chemistry...)

