UPEC
UNIVERSITÉ PARIS-EST CRÉTEIL

FACULTÉ DES SCIENCES
ET TECHNOLOGIE

Master's degree in Chemistry
Functional polymers

Master's degree year 1 - semester 1

Electrochemistry (3 ECTS)
Synthesis strategies in fine chemistry 1 (3 ECTS)
Spectroscopic and analytical methods (3 ECTS)
Techniques of chromatography (3 ECTS)
Options (12 ECTS), choose between:
* From macromolecules to polymer materials (3 ECTS)
* Biotechnology and fine chemistry (3 ECTS)
* Biotechnology of recombining proteins (3 ECTS)
* Nanochemistry (3 ECTS)
* Quantum physics and chemistry 1 (3 ECTS)
* Modelling in chemical sciences (3 ECTS)
* Environmental chemistry (3 ECTS)
* Programming 1 (3 ECTS)
Company knowledge base (3 ECTS)
English (3 ECTS)

Master's degree year 1 - semester 2

NMR Analytical methods and introduction to MRI (3 ECTS)
Bio-sourced polymers (3 ECTS)
Micelles, emulsions, foams and dispersions (3 ECTS)
Projects (3 ECTS)
English (3 ECTS)
Surface analysis methods (3 ECTS)
Options (12 ECTS), choose between:
* Cellular basis of pharmacology and toxicology (6 ECTS)
* Chromatography methods in microsystems for chemical and biological analysis (3 ECTS)
* Chemistry of surfaces and bio-arrays (3 ECTS)
* Programming 2 (3 ECTS)
* Applications of spectroscopy (3 ECTS)
* Modelling of complex media (3 ECTS)
* Quantum physics and chemistry 2 (3 ECTS)
* Synthesis strategies in fine chemistry 2 (3 ECTS)
* Polymer solutions and gels (3 ECTS)

Master's degree year 2 - semester 1

Synthesis and elaboration of materials (6 ECTS)
Nanostructured and hybrid materials (6 ECTS)
Polymers and sustainable development (6 ECTS)
Medical Devices and Biomaterials (6 ECTS)
Encapsulation (3 ECTS)
English and communication (3 ECTS)

Master's degree year 2 - semester 2

Internship (30 ECTS)