Université Paris-Saclay
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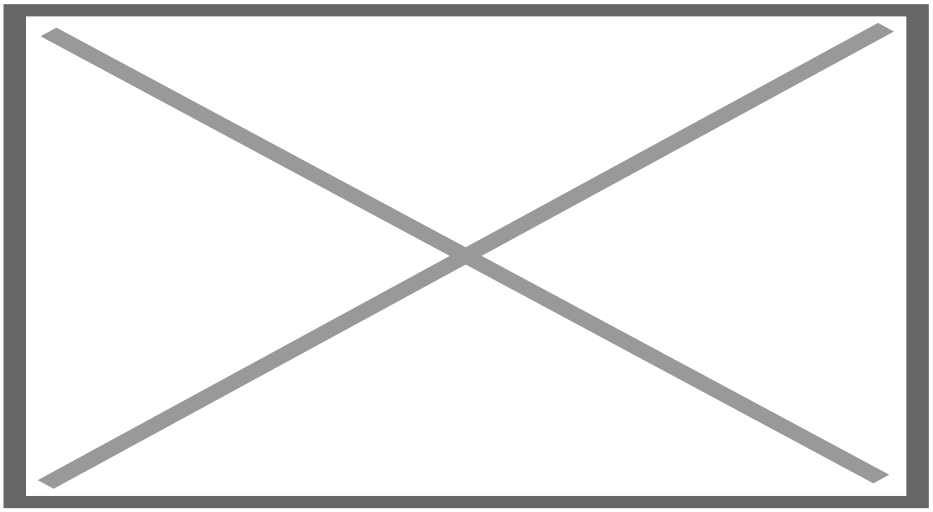
M1 Chemistry - Fréderic Joliot-Curie track

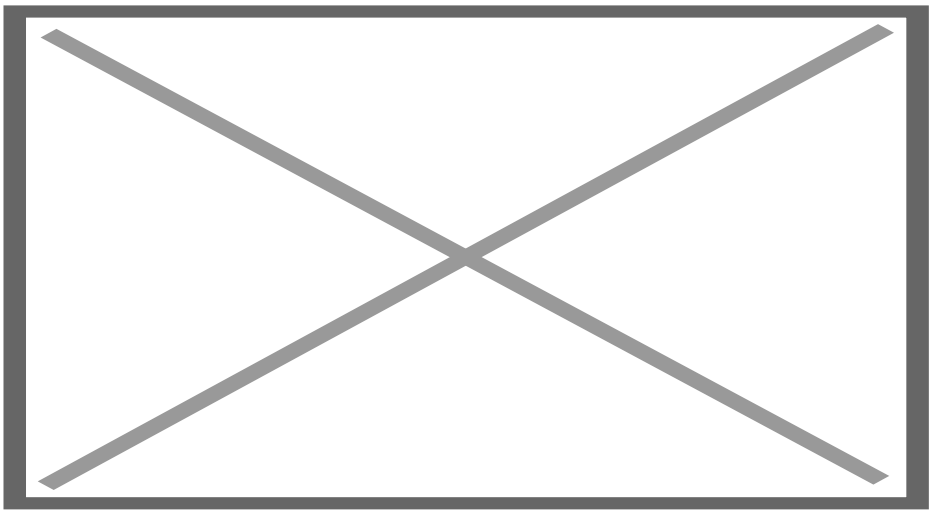
Master's degree
Specialisation Chemistry
Enrolment type
Formation initiale
Formation continue
Language(s) of instruction
English
French

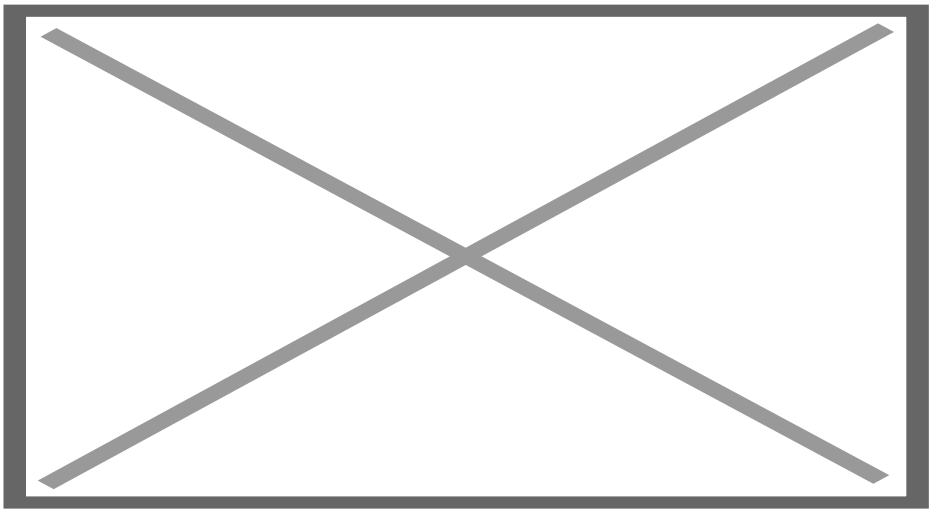
The 1st year Master's Chemistry FJC track offers an in-depth generalist curriculum covering a broad spectrum of chemistry fields, exploring the interfaces with other disciplines, particularly physics and biology. Particular emphasis is placed on acquiring experimental know-how, as well as on training through research in a variety of activities: practical work, experimental projects, analysis of articles, internships, etc.

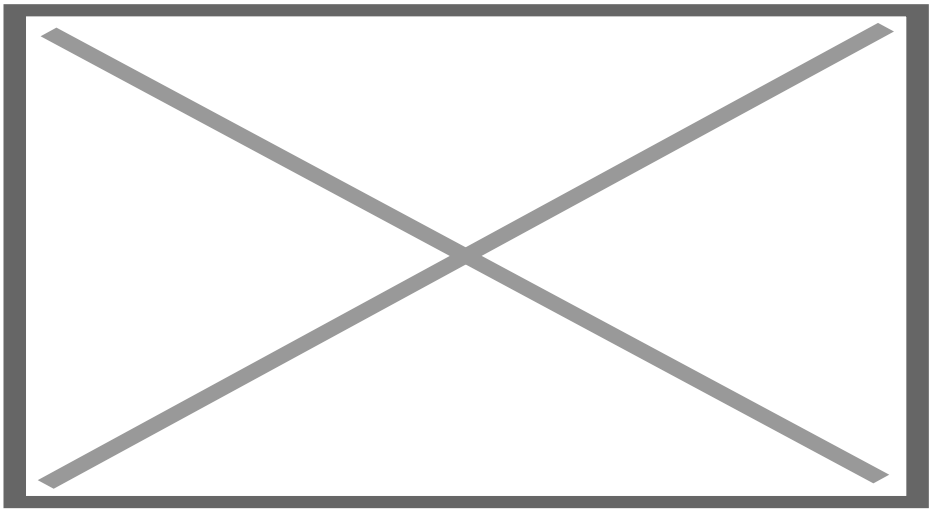
The 1st year Master's in Chemistry FJC track is a joint curriculum of the Orsay Faculty of Science and ENS Paris-Saclay, and is based on a double degree (magistère diploma or ENS Paris-Saclay diploma). It offers a common core curriculum covering most areas of chemistry (molecular, inorganic, analytical, physical chemistry and spectroscopy), with an emphasis on disciplines requiring advanced mathematical formalism (statistical thermodynamics, quantum mechanics, simulations or electrochemistry). Two English-language TUs (quantum chemistry and NMR) are shared with international Master's students from the Institut Polytechnique de Paris. Students choose a reinforcement course (molecular chemistry or physical chemistry) and a specialisation course (photoelectrostimulation, nanoscience, materials and magnetism, quantitative analysis techniques, advanced organic synthesis or biophysics). The year ends with a minimum 4-month research internship.

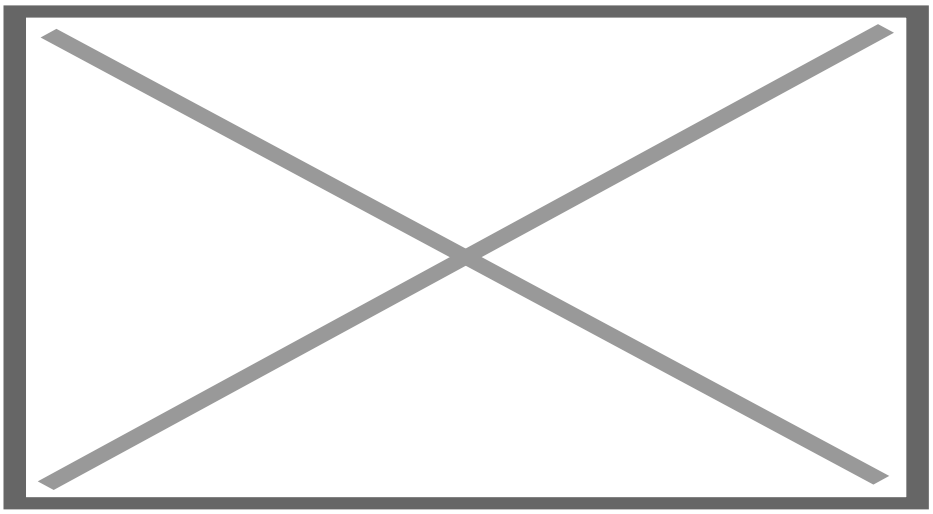
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Information

- Overview
- Application requirements
- Schedule

Présentation

Skills

- Communicate information and results to a variety of target audiences, being able to describe a protocol and organise results. * Develop and implement a scientific approach in chemistry, whether theoretical or experimental, independently, and organising work time to achieve the set objectives. * Identify and implement methods and techniques for developing and/or producing compounds or materials, in compliance with good laboratory practice. * Select and implement methods for separating and characterising compounds, having mastered the theoretical principles of measurement and being able to interpret results. * Predict physico-chemical properties or the reactivity of compounds and/or materials by combining all disciplinary knowledge. * Understand the properties of the spatial organisation of matter and the temporal aspects of chemical phenomena.

Objectives

Students enrolled in 1st year Master's in Chemistry FJC track follow a common core curriculum that provides a broad spectrum of knowledge in molecular chemistry and physical chemistry. Experimental aspects are covered in a wide range of practical work and activities linked to the world of research. This 1st year Master's offers a double degree (with the Faculty of Sciences at Orsay or ENS Paris-Saclay) which completes the course by offering the possibility of taking an additional TU chosen by the student. In total, the course is characterised by a 25-hour reinforcement of the subject, and 2 50-hour TUs, chosen by the student. At the end of 1st year Master's in Chemisty FJC track, students have a wide choice of specialisations in the 2nd year Master's in all areas of chemistry at Université Paris-Saclay, in line with their course of study, and as a first step towards a PhD. It is also possible to prepare for the competitive exams that open the way to a career in teaching (CAPES, Agrégation) or to entering an engineering school.

Débouchés

Further Study Opportunities

Master of Chemistry

Calendar

Start of programme (indicative date)
31/08/2026
Admission

Admission Route

Chemistry
Physics, Chemistry
Science and Technology

Capacity

Available Places

32

Target Audience and Entry Requirements

The 1st year Master's in Chemistry FJC track is aimed at students who have held an undergraduate degree for less than two years and have a solid background in all areas of chemistry. Applicants must be motivated by a desire to strengthen both theoretical and experimental aspects.

Période(s) de candidature

Inception Platform

From 30/01/2026 to 25/04/2026

Supporting documents

Compulsory supporting documents

Motivation letter.

All transcripts of the years / semesters validated since the high school diploma at the date of application.

Curriculum Vitae.

Detailed description and hourly volume of courses taken since the beginning of the university program.

Additional supporting documents

Certificate of French (compulsory for non-French speakers).

VAP file (obligatory for all persons requesting a valuation of the assets to enter the diploma).

Supporting documents :
- Residence permit stating the country of residence of the first country
- Or receipt of request stating the country of first asylum
- Or document from the UNHCR granting refugee status
- Or receipt of refugee status request delivered in France
- Or residence permit stating the refugee status delivered in France
- Or document stating subsidiary protection in France or abroad
- Or document stating temporary protection in France or abroad.

Programme

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practi class
UE obligatoires tronc commun FJC								

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed	Lecture/practical	directed study/practi class
Formation générale : Anglais	2.5	Semestre 1		20				
Charger le détail								
Sol-gel et Surfaces	5	Semestre 1	17.5	17.5				
Charger le détail								
Méthodes physico-chimiques d'analyse	5	Semestre 1	12.5	15	8			
Charger le détail								
Electrochimie et spectroscopies optiques	5	Semestre 1	14	14	8			
Charger le détail								
Connaissances transverses pour l'insertion professionnelle	2.5	Semestre 1	10.5	9.5				
Charger le détail								
Chimie organique avancée et chimie organométallique	5	Semestre 1	19	9	8			
Charger le détail								
Spectroscopies RMN et RPE	2.5	Semestre 1	14	10				
Charger le détail								
2 UE à choix tronc commun FJC pour 2,5 ects								
Introduction à la Chimie moléculaire durable	1.5	Semestre 1	5.5	2	3.5			
Charger le détail								
Approfondissement en Chimie Organique	1	Semestre 1	7	3.5				
Charger le détail								
Approfondissement en Electrochimie	1	Semestre 1	5.5	5.5				

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practi class
Charger le détail								
Approfondissement en méthodes physico-chimiques d'analyse	1.5	Semestre 1	5.5	5.5	0			
Charger le détail								

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practi class
UE obligatoires bloc 2 FJC								
Lasers et dynamique de la réaction chimique	5	Semestre 2	16.5	18	12			
Charger le détail								
Thermodynamique statistique et simulation moléculaire	5	Semestre 2	18	18	9			
Charger le détail								
Structure électronique et propriétés des complexes	2.5	Semestre 2	12.5	12.5				
Charger le détail								
Chimie quantique	2.5	Semester 2	14	14				
Charger le détail								
UE à choix bloc 2 FJC								
Analyses quantitatives et préparation d'échantillons	5	Semestre 2	22.5	13	9.5			
Charger le détail								
Stratégie et outils en synthèse organique avancée	5	Semestre 2	18.5	18.5	8			
Charger le détail								

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practic class
Structure électronique et magnétisme : de la molécule au solide	5	Semestre 2	18	21	6			
Charger le détail								
Photo- et électro-stimulations	5	Semestre 2	2	27.5	7			
Charger le détail								
Nano-objets fonctionnels : de la synthèse à l'application	5	Semestre 2	19.5	12	7			
Charger le détail								
Interaction rayonnement - matière	5	Semestre 2	27	10	8			
Charger le détail								

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	distanc learni cours
Stage	10	Semestre 2							
Charger le détail									

Teaching Location(s)

ORSAY
GIF SUR YVETTE
PALAISEAU

Academic Partner(s)

Institut Polytechnique de Paris

Contact

- **Antoinette BISSERETH**

  Secrétariat pédagogique

http://www.universite-paris-saclay.fr/formation/master/chimie/m1-chimie-voie-frederic-joliot-curie