Université Paris-Saclay

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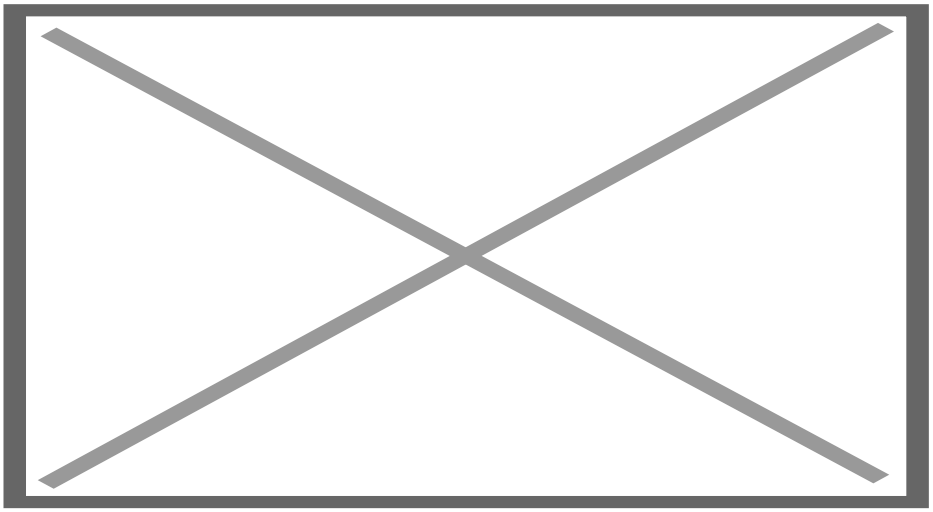
M1 Chimie bidisciplinaire chimie-biologie

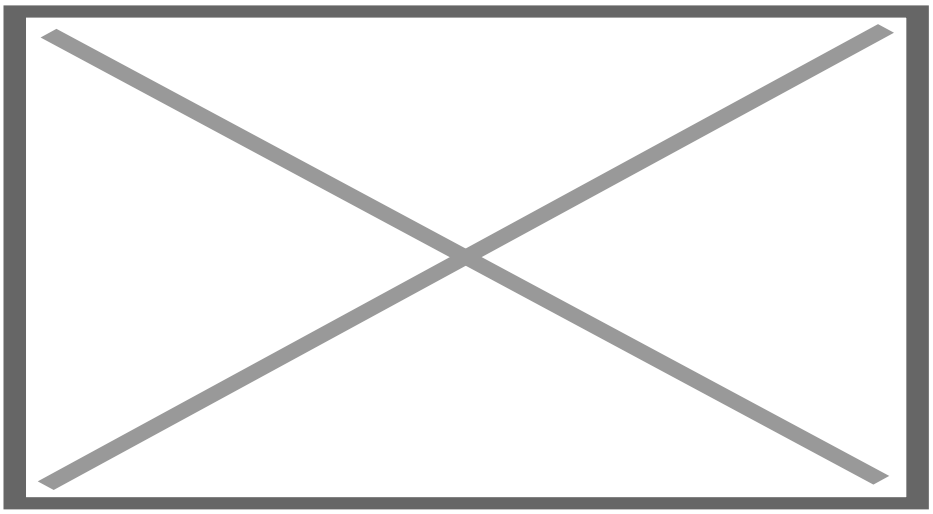
Master's degree
Specialisation Chemistry
Enrolment type
Formation initiale
Formation continue
Language(s) of instruction
French

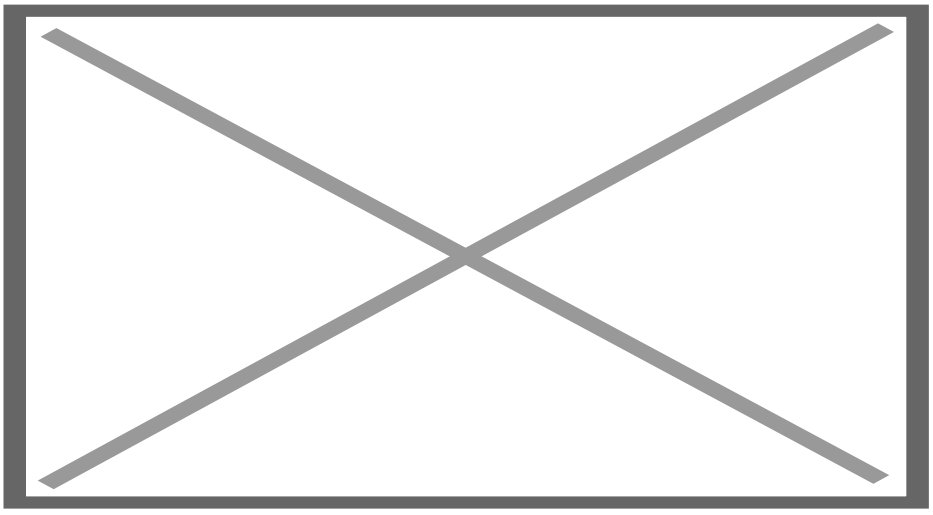
At a time when understanding complex molecular processes can help to tackle societal challenges in health and the environment, the Master 1 Chemistry and Biology program at Paris-Saclay University offers training in French aimed at designing and developing molecular tools for understanding or modulating molecular processes of interest, whether for fundamental research or for therapeutic, diagnostic or environmental applications (agrochemistry or ecology).

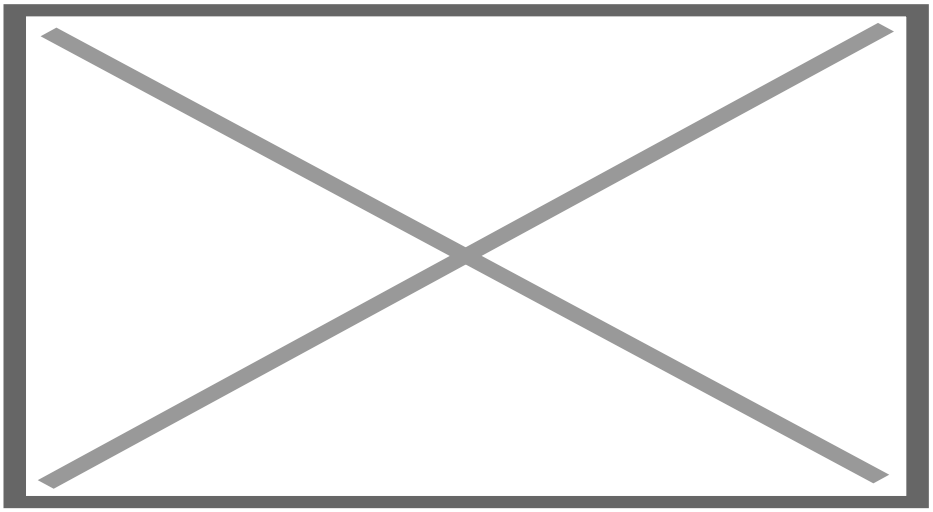
The M1 Chemistry-Biology is both a selective program (limited number of places) and an intensive one (55 theoretical and practical credits to be validated outside of the internship), providing multidisciplinary training in research through research. This M1 is given at the Orsay site, allowing pooling of Chemistry and Biology teaching within the Henri Moissan Biology-Pharmacy-Chemistry building, giving students an M1 level of knowledge and skills in both Chemistry and Biology, while giving them the opportunity to take advantage of the immediate proximity of numerous public and private laboratories and public research organisations for their end-of-year internship.This internship, the presence of a research project and a choice of teaching units allow each student to tailor their training from a wide range of scientific expertise (biochemistry/biotechnology, structural biology, pharmaceutical chemistry, chemobiology, fine chemistry, analytical chemistry, environmental chemistry, etc.).

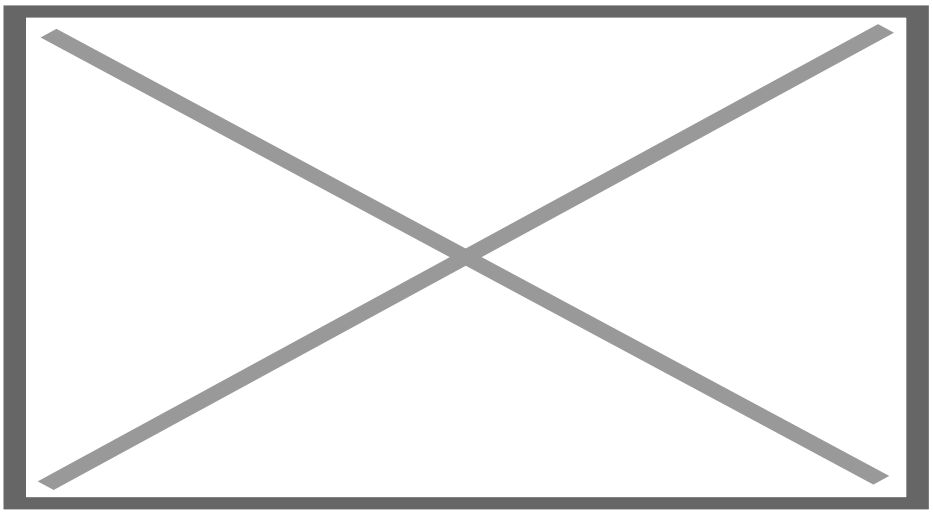
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Information

- Overview
- Application requirements
- Schedule

Présentation

Skills

1. Design, synthesize, and isolate chemical or biological molecules:

   • by proposing synthetic pathways based on modern chemical and/or biological methods and tools for developing complex molecules

   • by justifying choices made with reliable, verifiable, and relevant data and/or sources of information

• establishing and implementing a protocol in accordance with standards, hazards, and good handling practices

• mastering separation methods to isolate the molecules obtained

2. Analyze and characterize the properties of molecules of interest:

   • by identifying the appropriate instrument(s)

   • by mastering the principles of the measurement performed, its performance, and its limitations according to the equipment available

   • by interpreting and combining the results obtained by different methods

   • by using domain-specific computer tools for prediction, modeling, and data processing

3. Develop strategies to understand a system or process at the molecular level:

   • by establishing specifications, a work plan, and funding

   • by mobilizing methodological, experimental, and theoretical knowledge and skills useful for developing a scientific approach in chemistry

   • by gathering information and documentation on a chemistry issue and knowing how to identify relevant sources of information

   • by respecting the principles of ethics, professional conduct, and environmental responsibility

4. Building and establishing a personal and professional project:

   • by communicating information and results to different audiences in at least two languages, including English

   • by adapting to the work environment

   • by demonstrating autonomy and the ability to work in a team

   • by interacting with different interlocutors

   • by developing personal and professional networks

Objectives

The objectives of the M1 Chemistry-Biology program are to provide students theoretical and practical skills and knowledge covering various aspects of the Chemistry-Biology interface, ranging from the synthesis of complex organic molecules and their characterization to mastery of biological and analytical tools enabling them to carry out interdisciplinary research projects. Thus, at the end of this M1, students should be able to

design a strategy using organic chemistry and chemobiology tools to build or modify molecules of interest in order to understand and study a complex system at the molecular or cellular level.

Generally, the majority of students who have completed the M1 Chemistry-Biology program continue on to a M2 in Chemistry (M2 Organic Chemistry, M2 Engineering and Chemistry of Biomolecules, M2 Chemical Pollution and Environmental Management, M2 Research and Development in Analytical Sciences, for example) or other Paris-Saclay programs (the Molecular and Cellular Biology program, which is a partner of the M1 Chemistry-Biology program, or the Medicine and Health Products Sciences program, for example) or equivalent M2 programs in France. They are also eligible to enter the second year of various engineering schools on the basis of their qualifications.

In summary, the M1 Chemistry-Biology program of Paris-Saclay University:

• is a leading program in its field, built on a group of prestigious institutions and industrial partners to train students in research at the interface between Chemistry and Biology.

• offers a wide and diverse range of internships in a pool of laboratories of excellence.

• is based on an open organization that allows each student to tailor their training from a wide range of possible profiles in M2 (biochemistry/biotechnology, structural biology, pharmaceutical chemistry, chemobiology, fine organic chemistry, analytical chemistry, environmental chemistry, etc.).

Débouchés

Career prospects

After a Master's or Master's + PhD: engineer (R&D, control, production, etc.)
After a Master's + PhD: researcher or lecturer

Further Study Opportunities

Master of Molecular and Cellular Biology
Master of Chemistry
Master of Pharmaceutical and Health Products Sciences
Master of STePE and other Master of Earth Sciences
Engineering school
2nd year Master’s

Calendar

Start of programme (indicative date)
30/08/2026
End of programme (indicative date)
30/06/2027
Admission

Admission Route

Chemistry
Life Sciences

Capacity

Available Places

20

Target Audience and Entry Requirements

Graduates with a bachelor's degree, professional bachelor's degree, or bachelor's degree in chemistry and biology obtained less than two years ago, requiring a solid knowledge of various sub-disciplines of chemistry (analytical chemistry, inorganic chemistry, organic chemistry, and physical chemistry) and biology (biochemistry, molecular and cellular biology, structural biology, enzymology).

Période(s) de candidature

Inception Platform

From 15/01/2026 to 16/03/2026

MonMaster Platform

From February 17th to March 16th, 2026

To find out which platform you should apply through, please see the Masters' applications and enrolment page.

Supporting documents

Compulsory supporting documents

Motivation letter.

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

Selection sheet for continuation in M2 to download on this web page.

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
Caractérisation structurale par RMN et diffraction X	5	Semestre 1	21.5	23.5				
Charger le détail								
Sol-gel, surfaces et fonctionnalisations organiques	5	Semestre 1	22	23				
Charger le détail								
Formation générale : Anglais	2.5	Semestre 1		20				
Charger le détail								
Connaissances transverses pour l'insertion professionnelle	2.5	Semestre 1	10.5	9.5				
Charger le détail								

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed	Lecture/practical	directed study/practi class
Techniques d'analyse (chromatographies, spectrométrie de masse, spectroscopies optiques) - Site Orsay	5	Semestre 1	23.5	21.5				
Charger le détail								
Architecture et fonction des macromolécules	5	Semestre 1						
Charger le détail								
Enzymologie	5	Semestre 1			46			
Charger le détail								

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed	Lecture/practical	directed study/practica class
UE obligatoires bloc 2 Chimie-Biologie								
Sélectivité en synthèse organique et chimie organométallique	5	Semestre 2	19	18	8			
Charger le détail								
Réactions Fondamentales pour la Synthèse de Substances Naturelles	5	Semestre 2	18	19	8			
Charger le détail								
Vers de Nouvelles Substances Actives	5	Semestre 2	20		6			
Charger le détail								
Méthodes d'analyse structurale	5	Semestre 2	28	18				
Charger le détail								

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practica class
UE à choix bloc 2 Chimie-Biologie								
Stratégie et outils en synthèse organique avancée Charger le détail	5	Semestre 2	18.5	18.5	8			
Enzymes, Synthèse Organique et Environnement Charger le détail	5	Semestre 2	21	16	8			
Synthèse de molécules organiques issues du vivant Charger le détail	5	Semestre 2	22	15	8			
Interaction rayonnement - matière Charger le détail	5	Semestre 2	27	10	8			

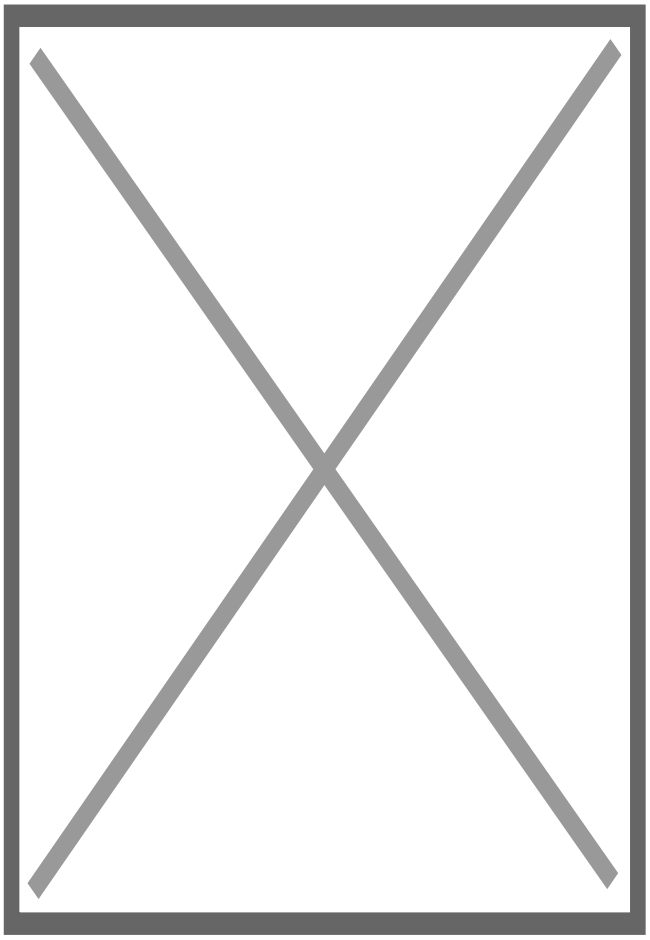
Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	distan learn cour
Research internship Charger le détail	5	Semestre 2							

Teaching Location(s)

ORSAY

Training campus

Javascript est requis pour visualiser cette carte.



Saclay Moulon

Saclay / Gif-sur-Yvette / Orsay
Bus 4606 / 4609 / 4611 / 5154
RER B Le guichet
Voir
Student restaurant (CROUS)
Library
Sports facilities
Student residence

Contact

- ### Aurélien ALIX

  Responsable pédagogique du cursus Chimie-Biologie du M1 Chimie site Orsay

- ### Pascale Derlich - Quentin

  Secrétaire pédagogique M1 Chimie site Orsay et M1 bidisciplinaire Chimie-Biologie

http://www.universite-paris-saclay.fr/formation/master/chimie/m1-chimie-bidisciplinaire-chimie-biologie