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M2 Instrumentation et Méthodes d'Analyse Moléculaire

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

The **M2 Instrumentation et Méthodes d'Analyse Moléculaire** aims at training specialists in scientific instrumentation dedicated to chemical analysis as well as in the development and validation of analytical chemistry methodologies. Created in 1989, this track is recognized for its ability to answer the needs of industries for managers and experts specialized in instrumentation and chemical analysis.

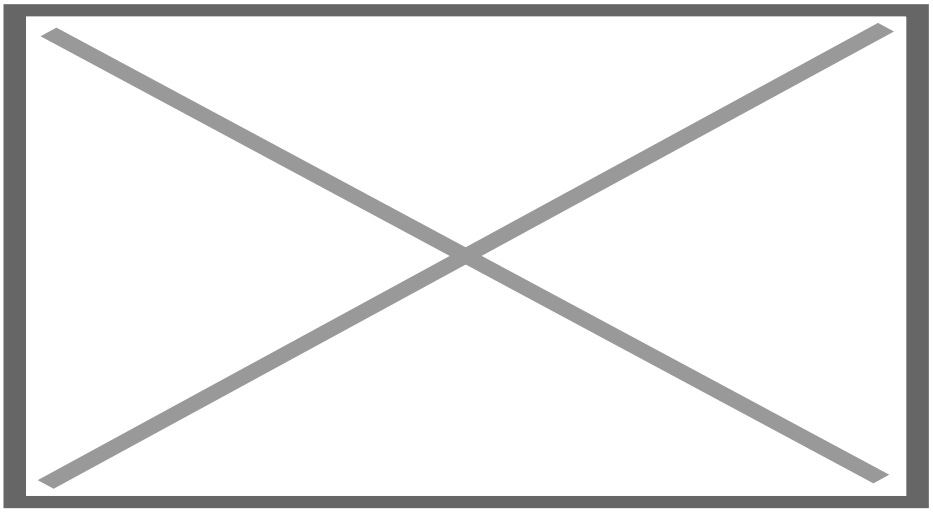
Small class sizes (maximum 18 students) and the **diversity of analytical equipment** available to students enable high-quality teaching with personalized supervision.

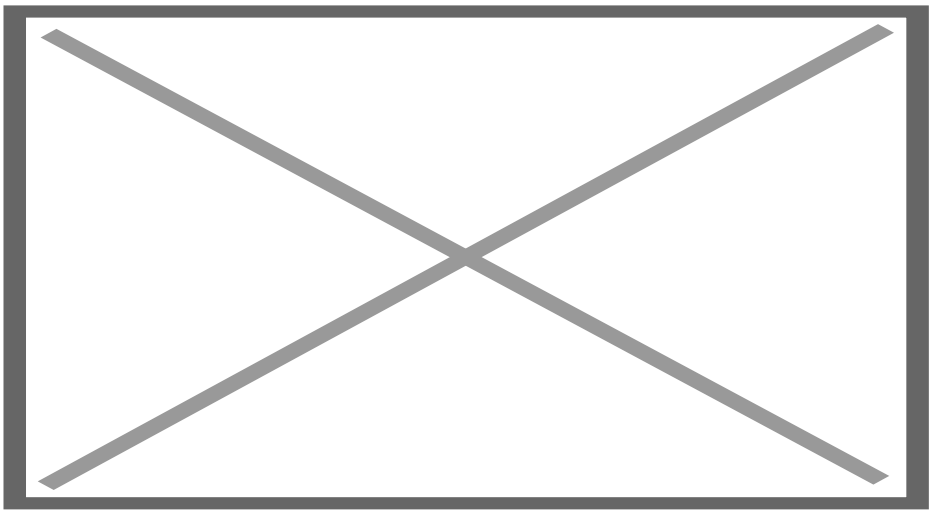
Career integration is supported by an **extensive professional network** through its alumni association: the Association Spectral.

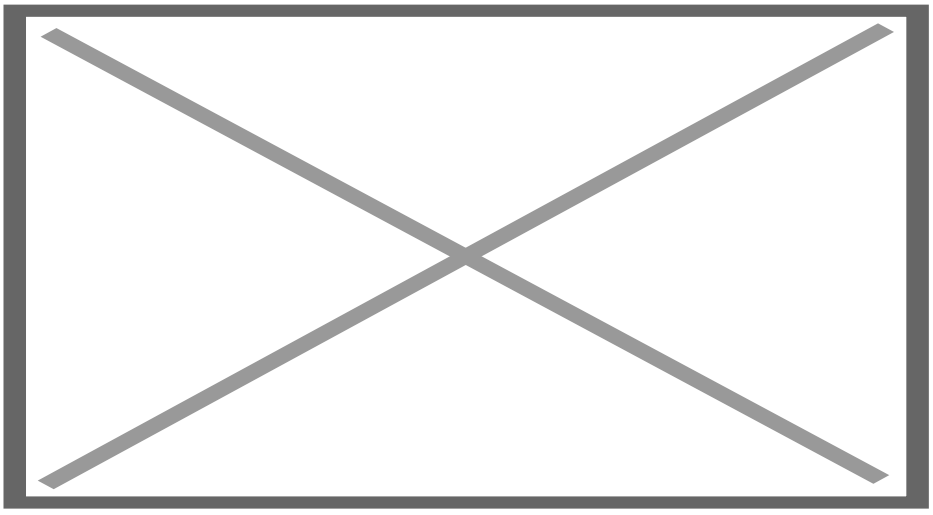
The courses are designed to provide:

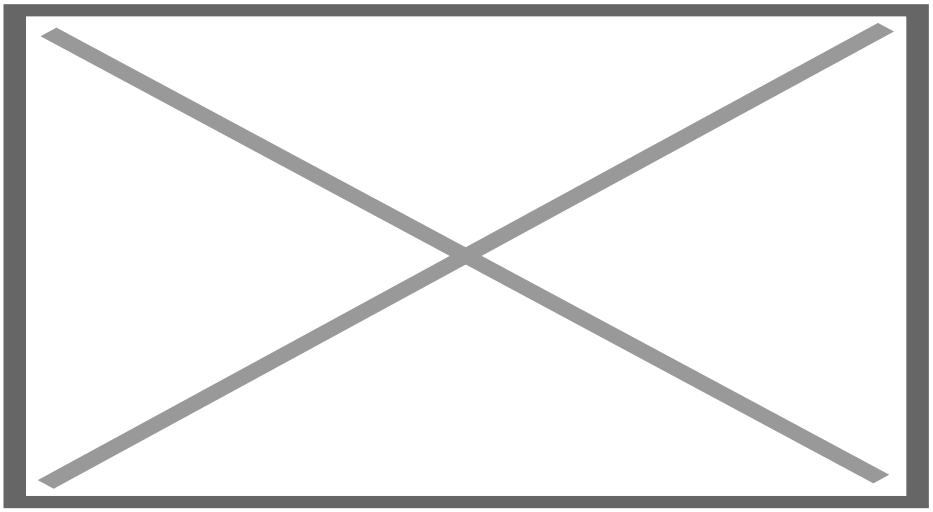
- Disciplinary knowledge and expertise in quantification and separation methods (chromatography, optical spectroscopy, experiment design, method validation) and molecular characterization techniques (NMR, mass spectrometry, molecular modeling).
- Cross-disciplinary skills and interpersonal skills related to careers in analytical chemistry (business knowledge, sales techniques, human and social relations, communication techniques, operational IT).

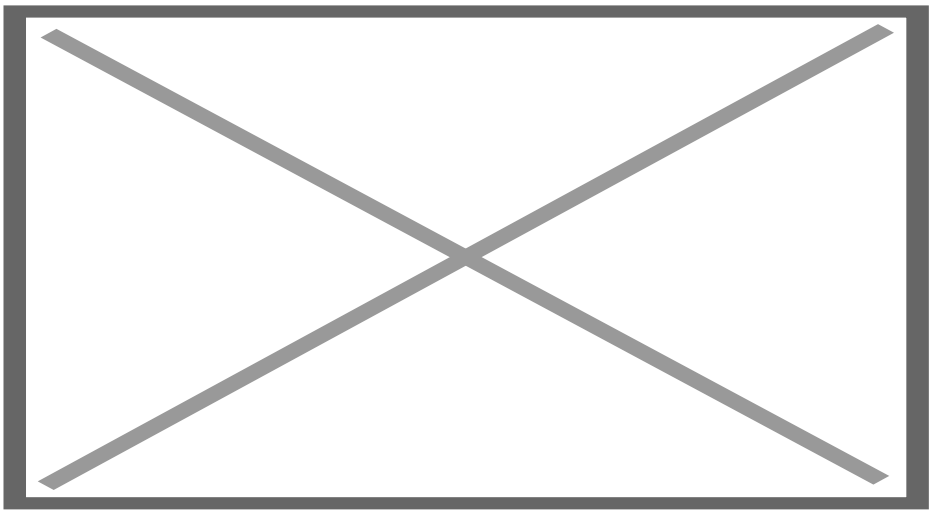
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Information

- Overview
- Application requirements
- Schedule

Présentation

Skills

- Communicate information and results to different audiences by being able to describe a protocol and organize its results.
- Implement, carry out, and design a study, project, or scientific approach in analytical chemistry, whether theoretical or experimental, independently by establishing specifications and a work and financing plan, and organizing the work time to achieve the objectives set.
- Interpret the results of analytical methods (spectra, chromatograms, statistical tools).
- Use the main instruments of molecular analytical chemistry and computer control and acquisition software in accordance with health and safety rules.
- Develop an analytical method to address a new problem: choose the appropriate analytical strategy adapted to the constraints, propose and optimize the protocol, including through the use of

multifactorial experimental designs, and validate the method.
- Develop a scientific approach to solve experimental or instrumental problems encountered by users of analytical equipment.

Objectives

The Instrumentation and Methods of Molecular Analysis program is designed to train chemistry students for management positions in the field of analytical chemistry. More specifically, the course covers the different facets of instrumentation, use, development and validation of molecular characterization methods.

The curriculum is structured around three axes:

- Knowledge of the industrial sector, its environment, its production, quality management, human and social relations; handling communication techniques and operational IT.
- Specialized training in analytical chemistry: data processing and handling, chemometrics (experiment design, method validation), molecular modeling.
- Expertise in organic analysis: NMR, mass spectrometry, chromatography, optical spectroscopy.

Débouchés

Career prospects

Raw materials and manufacturing quality control manager
maintenance engineer
R&D Project Manager
Design engineer in the industrial sector
Design engineer industry / public research
Research or Design Engineer
Technical support engineer

Calendar

Start of programme (indicative date)
01/09/2026
End of programme (indicative date)
08/09/2027
Admission

Admission Route

Chemistry

Capacity

Available Places

18

Target Audience and Entry Requirements

Students entering the program should have an M1 chemistry background with more specific analytical chemistry skills:

- interpret spectra and chromatograms and apply the main molecular analysis techniques (NMR, mass spectrometry, spectroscopies)
- analyze quantitative results using appropriate statistical methods and tools.

Période(s) de candidature

Inception Platform

From 05/02/2026 to 15/06/2026

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

TOEIC.

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

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

Programme

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practic class
Spectroscopie, Analyse élémentaire et Modélisation	4	Semestre 1	42		0			
Charger le détail								
Plans d'expérience, validation de méthodes, informatique	5	Semestre 1	24	18	8			
Charger le détail								
Chromatographies et techniques séparatives	6	Semestre 1	43.5					
Charger le détail								
Résonance magnétique nucléaire	6	Semestre 1	39	6				
Charger le détail								
Spectrométrie de masse	6	Semestre 1	45					
Charger le détail								

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dis lea c
Anglais ou UE libre									
Anglais	3	Semester 1		45					
Charger le détail									
UE libre Catalogue S1	2.5	Semestre 1							
Charger le détail									
UEs obligatoires									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dis lea c
Projets tutorés, qualité et connaissance de l'entreprise	4	Semestre 1	14	20					
Charger le détail									
Séparation et identification : techniques structurales	4	Semestre 1			31				
Charger le détail									
Travaux pratiques en analyse moléculaire	4	Semestre 1			45				
Charger le détail									

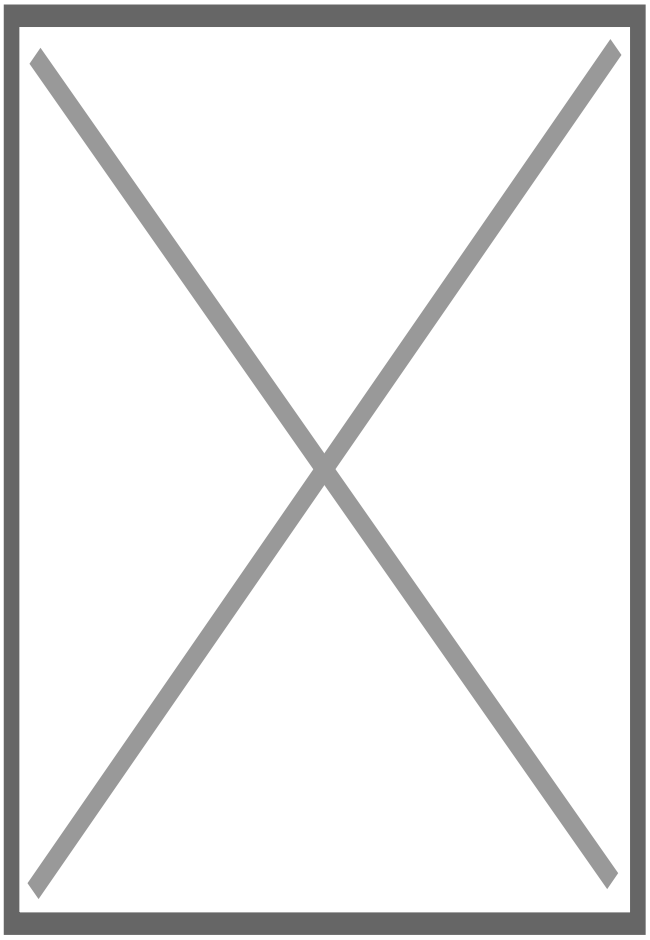
Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	di le
Apprentissage ou stage en entreprise	18	Semestre 2							
Charger le détail									

Teaching Location(s)

ORSAY
EVRY

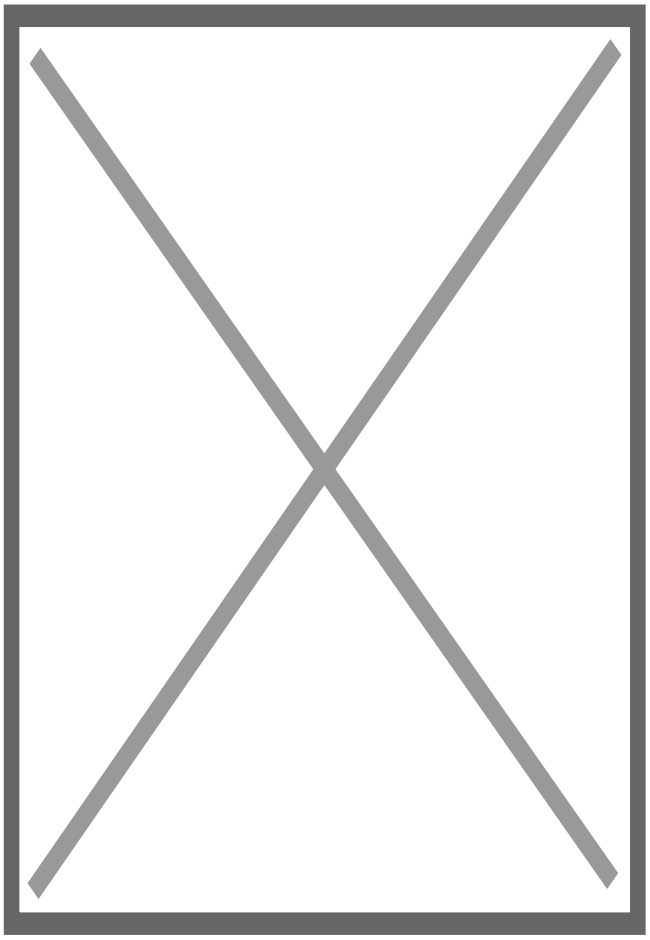
Training campus

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Orsay Bures

Orsay / Bures-sur-Yvette
Bus 4607, 4626
RER B Orsay ville ou Bures-sur-Yvette
Voir
Library
Community center



Evry

Evry
Bus 9105, 4504
RER D Evry Courcouronnes
Voir
Student restaurant (CROUS)
Library
Student residence
Sports facilities

Contact

- **Guillaume VAN DER REST**

  Responsable du M2 IMAM

- **Marie-Christine SCHERRMANN**

  Co-Responsable M2 Instrumentation et Méthodes d'Analyse Moléculaire

http://www.universite-paris-saclay.fr/formation/master/chimie/m2-instrumentation-et-methodes-danalyse-moleculaire